

THE
GEORGE WASHINGTON UNIVERSITY
NAVY GRADUATE COMPTROLLERSHIP PROGRAM

NEW DEVELOPMENTS
IN THE
PUBLIC WORKS CONSTRUCTION
PROGRAM

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For
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FOREWORD

In his first term paper the writer confined himself to the realm of philosophy with some recommendations on the practical application of comptrollership philosophy at a naval station shore activity.¹ This was an endeavor to consolidate his thinking on comptrollership, as influenced by the Summer Term and part of the Fall Term instruction, and to apply this thinking to a field in which he has had experience.

Since the writer has never had accounting in his academic experience, he felt that greatest benefit would be attained by adopting a subject in the accounting field for the second term paper. In exploring this field at the Bureau of Yards and Docks, he was invited to become a member of a committee to prepare an accounting system for the implementation of one of the recommendations of the "Construction Activities Working Group" of the "Advisory Committee on Fiscal Organization and Procedures" (Cooper Committee) to the Secretary of Defense.

The Bureau of Yards and Docks was assigned responsibility for developing the accounting system for the Navy. Assistance was sought and provided from the General Accounting Office, the Assistant Secretary of Defense (Comptroller) and the Navy Comptroller.

Thus there was an opportunity for the writer to kill four birds with one stone, namely, (1) the preparation of a term paper in the accounting field, (2) participation in a group working

¹Comptrollership Ashore.

under auspices of the Joint Accounting Program, (3) detailed familiarization with a segment of the Cooper Committee Report, and (4) indoctrination into a system and familiarization with personnel with whom the writer would be working in his prospective duty assignment to the office of the Comptroller, Bureau of Yards and Docks.

Upon approval by Dr. Johnson, the writer joined the Accounting Committee, meeting with them approximately twelve hours per week from mid February to early May. Although the system developed is complete for presentation purposes the job of testing it in pilot installations remains to be done in order to perfect it for use Navy-wide in the prosecution of the FY 1957 Public Works program. The important thing to emphasize is that such a system is a dynamic thing and cannot be wrapped up in a term paper once and for all.

The value of this participation lies not in the term paper presented here, but in the solidification of the principles of budget formulation and execution through the application of accounting principles in a practical example which draws previous governmental practices toward a more business-like system. The opportunity to draw upon the broad principles acquired during the Navy Graduate Comptrollership Program in practical problem solving has been an exciting experience and the initial results have been most gratifying.

The volume of exhibits may lead the casual peruser to the conclusion that this paper is merely a collection of a number of documents to provide a well padded paper. In fact, serious consideration was given to merely quoting from such documents where

absolutely necessary and placing the documents in the class library. However, any one of these documents viewed singly and without benefit of a verification as to their actual importance and chronological use would only serve to confuse. As a result, it was decided to include these documents to provide an integral story of the development of an important advance in the comptrollership field by the Department of Defense. This development will by no means be complete until after FY 1957 provides a measure of its effectiveness in implementing actual military construction.

To set the record completely straight, however, it is desired to point out that the writer's contribution to the work of the committee was a minor one, mainly relating to explanations of the procedures and viewpoint of the operator from his experiences as Deputy and Resident Officer in Charge of Construction. The major contribution, that of developing the accounting system on the accrual basis, was devised by other members of the committee.

The committee operating under the direction of Captain Norman J. Drustrup, CEC, USN, Comptroller, Bureau of Yards and Docks was composed as follows:

- Mr. Harry Listenes--Accounting Systems Division - General Accounting Office
- Mr. Dale Culbertson--Accounting Policy Division - Office of Secretary of Defense (Comptroller)
- Mr. L. W. Carlson---Field Procedures Branch - Office of Navy Comptroller
- Mr. J. W. Cochrane--Manager, Budget Branch - Bureau of Yards and Docks
- Mr. M. K. Huston ---Manager, Finance, Accounting and Audit Branch - Bureau of Yards and Docks
- Mr. R. G. Anderson--Head, Public Works Budget Section - Bureau of Yards and Docks
- Cdr. R. T. Pratt, CEC, USN - Navy Graduate Comptrollership Program - The George Washington University

CHAPTER I

THE EXISTING PUBLIC WORKS PROGRAM

Background

The appropriation Public Works, Navy (symbol 17X1205) is the appropriation which finances the Navy's capital expenditures for construction. It does not include procurement for capital equipments except those which become a part of the permanently installed features of the facility constructed. Furthermore, it does not include the minor new construction and improvements which may be financed from the annual maintenance and operating funds of the several bureaus within certain limitations.

Prior to the establishment of the Department of Defense, the Navy Public Works Program was prepared unilaterally under the direction of the Secretary of the Navy and transmitted to the Congress via the Bureau of the Budget and the President.

With the establishment of the Department of Defense, the military construction programs of the three services were coordinated by the Secretary of Defense, and a single bill was transmitted to Congress. This coordinated program is broken down into the needs of each of the services, and appropriations are made for each service. This system insures coordination of capital expenditures for construction for the joint support of National Defense instead of unilateral programming by each of the services. It gives Congress an overall look at the proposed capital expenditures for construction by the military.

In the Navy the preparation of the program is done through military channels as it is a basic axiom that the program must serve military necessities. This chain starts with the Commanding Officers of naval activities and proceeds through the District Commandants to the Chief of Naval Operations. The program is determined by the Shore Station Development Board which originated in the Office of the Chief of Naval Operations in 1916 as the Board on Navy Yard Plans. The program as approved by the Chief of Naval Operations is subject to review and approval by the Secretary of the Navy who transmits it to the Secretary of Defense for coordination with the programs of the Army and the Air Force.

After funding, the program is assigned to the Bureau of Yards and Docks for administration and implementation. This bureau establishes construction standards and procedures and maintains the necessary accounting and progress information. Except for a few items which the Bureau handles directly, the major portion of the program is distributed by Naval Districts for implementation by District Public Works Offices. The District Public Works Offices prepare plans and specifications (or have them prepared by commercial architectural and engineering firms), and let and supervise construction contracts. The majority of work under the Public Works Program is accomplished by lump sum contract. Occasionally, when the situation demands, cost-plus-a-fixed-fee contracts are utilized. In unusual cases, work may be performed by Construction Battalions (Sea Bees), and on some minor items, station forces (Civil Service) may be employed.

Control over the program has been exercised by the Bureau by providing individual allotments to the field for each specific facility to be constructed.

Difficulties

As with almost any other funding program of this country there have been difficulties. Basic to any such problem is the normal economic problem of satisfying unlimited wants with limited resources. Beyond that there is the natural human problem of effective communication, of seeing the other person's viewpoint, and of Congress' traditional role of controlling the public purse.

It must be remembered that the art of effective public budgeting is a relatively recent development in the nation's history. Its birth, for all practical purposes, dates from the Budget and Accounting Act of 1921, and its major development has really taken place in the scant ten years since the end of World War II. The two most significant events in this period have been the adoption of the "performance type" budget in the Budget and Accounting Procedures Act of 1950, and the establishment of the comptroller-ship concept in the Department of Defense by Title IV of the 1949 Amendments to the National Security Act of 1947.

The methods of programming and administration of most appropriations were greatly improved following these developments. Through the adoption of many business-like methods, public administrators were able to provide adequate justifications for programs and to exhibit full disclosure of the effectiveness of programs. Confidence was generated between the Congress and public administrators. Through the use of these business-like methods it was

possible to play the cards face up on the table and obtain recognition for a good hand.

But this has not been the case with Public Works. Most projects originated in the field. The accent seemed to be on requesting a vast number of projects with incomplete justifications rather than a few well thought out projects. There was no plan, no continuity. Programs varied with the wishes and energies of Commanding Officers, technical bureaus and the various personalities who were clogged into the complicated machinery of project preparation.

Oftentimes a project languished for four or five years from its inception until its authorization and funding. By this time the persons originally associated with the project were long gone from the scene. Conditions may have changed in the meantime and personnel who received funds for certain items were concerned because there were other things that were needed far greater than the funded projects.

From the standpoint of national economics there were times when thoughts of a Public Works program were "taboo." But there were other times when programs were rushed through as a pump priming measure or because the "cold war" suddenly warmed up. Oftentimes a project became a political football. Once a program was funded there were heavy pressures put on the Bureau of Yards and Docks to obligate and expend as quickly as possible in order to make a showing and get ready for the next round. The field people responded with poorly prepared plans and specifications and the nation paid for this haste through many contract change orders and contractor claims.

The Congress was frustrated in its efforts to control the public purse. Poor justifications and occasional revelations of variations from the legal scope of project caused Congress to react. There were unusual fluctuations in the program. There were long dry spells and occasional sudden down-pours. There were unusual restrictions established in both the authorization and appropriation bills from year to year. These were the only tools Congress had to assert its control. As a result, instead of a smooth flowing, planned program for a continuing no-year appropriation, there was a jerky series of authorization and appropriation bills. The Public Works Program never reached the stability necessary for inclusion in the annual federal budget and has had to be handled as separate legislation.

Administration and accounting for such a program became immensely complicated. Projects had to be tied to the various restrictions in the bills which authorized and funded them. Some examples of these variations are listed below:

(a) Public Law 653/80 (6/16/48) - This law allowed for a 10% increase or decrease over estimated amounts indicated, however, no increase was allowed in continental and overseas totals.

(b) Public Law 420/81 (10/27/49) - This law allowed a 5% escalation.

(c) Public Law 564/81 (6/17/50) - This law allowed a 5% increase to any project by transfer of savings from other projects

(d) Public Law 910/81 (1/6/51) - This law was a lump sum authorization and no limitations were prescribed.

(e) Public Law 155/82 (9/28/51) - This law allowed a 10% increase to a project by transfer from other projects. Also it allowed increase over the 10% with the approval of the Director, Bureau of the Budget, if such increases over the basic 10% were due to unusual cost variations.

(f) Public Law 209/83 (8/7/53) - This law allowed a 5% increase to projects in the continental U. S. and a 10% increase in overseas projects by transfer from other projects.

The difficulties of administering such a program can well be imagined. Two projects from different authorizations and appropriations could be under construction at the same time and at the same station, but adjustments to these projects, if necessary, had to be accomplished in different ways. What could be done in one case could not be done in another. It is obvious that separate books had to be kept. There was practically no method of summarizing information for presentation to higher authority. There were many stymies to prevent sound administration in the best interests of the government.

This was not a smooth flowing, planned program. It was a maze of "ifs, ands, and buts." It was impossible for a Congressman or any other authority to ask a simple general question without receiving an answer with so many qualifications that it was really no answer at all.

It can be seen readily that the myriad difficulties discussed above cannot be laid at any particular person's door. They are the fault of the system under which the program had to operate. Furthermore, it appears that a remedy could not be generated by any one person because of the vastness and inertia of the

system coupled with the length of time required for approval, authorization, appropriation, construction and final payment of litigation on a project. The remedy lay only in a major cooperative effort between Congress, the Secretary of Defense, the Bureau of the Budget, the General Accounting Office, the service Secretaries and Chiefs and their construction agencies.

Before leaving this subject of what has been wrong in military construction it is only fair to mention that despite these difficulties there has been much that is right with the program. It must be remembered that heavy investment in the Public Works type of fixed asset did not begin until shortly before World War II and grew tremendously during the war. Prior to World War I the Navy plant ashore involved only a few navy yards and some minor ammunition facilities. There was little build-up during the disarmament period of the 1920's. Furthermore, little was done during the 1930's because of the depression. It was not until 1939 that the Navy began to obtain the shoreside plants required by reason of technological advances, aviation, and the mounting tensions in Europe. World War II demonstrated the need for increased plant ashore, and the response of the Civil Engineer Corps to this need was commended many times.

It must be pointed out that there have been attempts to improve the situation. In 1950 the Navy adopted a system of station master planning which had been developed by the Army. This system requires extensive mapping of existing and proposed facilities with allocations of areas to functional activities and detailed plans of utilities. It provides some logic to the programs of stations in accord with their current and mobilization missions

and insures more consideration of the feasibility of projects. Furthermore, with approval and control exercised by the Chief of Naval Operations (Shore Station Development Board) whimsical changes by personalities down the line are prevented. Of course, the plan can be changed with reasonable justification. It must be realized, however, that master planning is a major undertaking and that refinement will require a number of years.

In 1951 the Bureau of Yards and Docks embarked on a program of obtaining advance planning of high priority projects which were most urgently needed. This involves feasibility studies, preliminary plans, outline specifications and sound engineering estimates for projects. This program has resulted in more thorough justification for projects and in shorter periods for the preparation of final plans and specifications after projects were funded.

In summary, it may be said that the difficulties with the Public Works Program lie in the present system rather than the people involved. The grand objective is not to return to the days of the 1920's and 30's, but should be to preserve the worthwhile plant, eliminate the obsolete, and build only that which is fully justified under a system which permits full disclosure and confidence. This will eliminate the errors of haste, waste, lack of planning and lack of trained personnel.

CHAPTER II

THE REMEDY

The remedy for the state of Public Works Program is not a simple prescription. Many persons involved in this system have been doing some sound thinking on this subject. As discussed in Chapter I, two elemental remedies, station master planning and advance planning of projects, have been instituted. The problems of the Public Works program have been on the minds of thoughtful people in the Congress, the General Accounting Office, the Bureau of the Budget, the offices of the Secretary of Defense, the Service Secretaries, the Chief of Naval Operations and the Bureau of Yards and Docks. As people discussed these problems, ideas intersected other ideas and an evolutionary thought process developed.

It is not possible to trace the development of these ideas for the purpose of affording recognition to the innovators. Bits and pieces from business philosophy, accounting philosophy, programs of the Bureau of Reclamation, the Army Civil Works Program, good features of the present Public Works Program and some innovations were juggled together to become a new system which the Secretary of Defense has prescribed for the 1957 Public Works Program.

The informal beginning of the consolidation of this thinking came when a few Congressmen intimated to various persons interested in this problem that consideration of the program should be on a station program basis rather than a project basis. Aside from

several general studies on fiscal reorganization in the Department of Defense, the first written evidence of a solution, specifically directed to the Public Works Program and based on this idea, was a proposal prepared in the Bureau of Yards and Docks in October of 1953. This proposal was forwarded through channels, but the problem waited for a major champion to come along. Such a champion appeared in the form of the Cooper Committee. The Construction Activities Working Group under Mr. E. M. Voorhees, Financial Vice President of U. S. Steel Corporation, investigated and refined the Bureau's proposal and urged immediate approval by the Secretary of Defense. The Secretary approved and directed implementation by the three services in the 1957 Military Construction Program.

The simple statement that the program should be considered on a station program basis rather than a project basis must be explored further to understand the full nature of this remedy. This requires review of the project basis used under the present system.

The problem in the project basis of Public Works budget formulation lies in the difficulty of defining a project. It is easy to see that the construction of a barracks building would be a single project. Would the construction of twenty barracks also be a single project? If these barracks were to be constructed in an undeveloped area of a station, would the necessary site preparation, roads, walks, water supply, electrical distribution and sewerage also be a part of the single project? If an entirely new personnel area with barracks, mess halls, galleys, chapel and recreation facilities were required at a Naval Training Station, would this be a single project? Would an entirely new air station with all types of facilities be a single project?

These questions have never been resolved completely. They have been cause for many changes in ground rules even at the Department of Defense level. Because of this and the difficulties described in Chapter I, the services have done much jockeying to get as much into a project as possible. There was a time when bigness seemed to lend enchantment, and a project did not have a chance unless it was a multi-million dollar affair.

Under such a system there was little opportunity of obtaining any reasonable cost figures for comparison or control purposes. The estimate for each project was a tailor-made affair which included unusual and non-comparative costs for site preparation and utilities. Furthermore, under this system the proper recording of plant value was a neglected area. The engineers were interested in completing one facility and moving on to the next job. If the Plant Account clerk at a station was able to obtain any reasonable figures for the several items of plant addition caused by a single project, it was only because of his own inquisitive efforts. Finally, because the projects were undertaken on an allotment basis, with the Bureau obtaining technical equipment through other Bureaus, and in some cases receiving non-reimbursable materials or services, the true cost of a project was never really known.

The remedy recommended by the Cooper Committee lies in the adoption of a classification of accounts for all types of facilities employed by the three services. It was proposed that the services prepare construction programs for each station instead of preparing individual projects. The programs listed according to the accounts, then, present the ultimate picture, a view of the program as it would appear in the plant account when completed.

This is more like performance budgeting for other appropriations. It is possible to consider the contribution of the features under each account to the mission of the station. This idea will furnish better appraisal of the justifications for the various facility needs of the stations.

The basic control point now becomes the station rather than the project. It is comparatively difficult to determine the merits of a barracks building at Great Lakes versus a ready ammunition storage magazine at Coco Solo. It is more practical to determine the advisability and extent of a program of strengthening the resources of Great Lakes versus those of Coco Solo.

Admittedly, the projects as formerly conceived, are the building blocks of the station's program, but under the new concept we are attempting to look at the building as it will appear when completed rather than viewing just the building blocks. This is analogous to the program or performance type of breakdown of the federal budget as opposed to the object class type of breakdown. Object class breakdowns are important only in that they support the programs.

Along with recommending the station as a control point, the Cooper Committee recommended the master plan as the basic backup for the program of each station. Furthermore, the classification of accounts results in a standard set of expenditure accounts for the Army, Navy and Air Force, which sets the stage for a sound system of cost accounting and control. By constructing and accounting for the station programs under this system it will be possible to establish a sounder plant account of the Public Works

type of assets. The use of the accounts segregates the variables in types of costs which permits analysis and review and some reasonable determination of standards of performance.

The recommendations of the Cooper Committee were broad and it has been necessary for many groups to develop detailed procedures for their implementation. The development of detailed budgeting techniques and format was detailed to one group. Another developed the classification of accounts. Another is working on the extent of reports required on the Department of Defense level. The development of accounting procedures and systems was assigned to each service. As stated in the foreword, this responsibility for the Navy was assigned to the Bureau of Yards and Docks.

The next chapter supplies brief introductions to the exhibits which pertain to the discussion up to this point. The final chapter is a presentation of exhibits and discussion of the accounting procedures and system developed by the Bureau of Yards and Docks committee.

CHAPTER III

EXHIBITS

Exhibits which bear on the discussion given in Chapter II are appended in order at the end of this Chapter and are briefly discussed below.

Construction Activities Working Group
Report on
Military Construction Program

This is the Cooper Committee's sub-Committee report which outlines the remedy for the deficiencies of the Public Works Program. Fourteen recommendations are listed on pages 6 through 9. Recommendations 10 and 12 have been worked on by the Bureau of Yards and Docks Committee and the results of that work are presented in Chapter IV.

Secretary of Defense Memorandum
dated July 25, 1954

This is the letter by which the Secretary of Defense approved the report of the Construction Activities Working Group and directed implementation in the 1956 Public Works Program. It is interesting to note that the Secretary considered this subject of such importance that he approved the report in advance of the overall Cooper Committee report.

Secretary of Defense Memorandum
dated September 22, 1954

This letter amplifies the July 25th letter, postpones the implementation to not later than FY 1957, and assigns responsibil-

ity for clearance with Congress to the Assistant Secretary of Defense (Properties and Installations) and the Assistant Secretary of Defense (Comptroller).

Assistant Secretary of Defense (Properties and Installations)
Memorandum dated March 11, 1955

This letter is one of the implementing directives in response to the Secretary's memorandum of September 22, 1954. It provides instructions to the Service Secretaries on submission of the FY 1957 Military Public Works Authorization Program.

Department of Defense Instruction 4165.3

This instruction promulgates the classification of accounts referred to in Chapter II. These accounts are set up on the decimal system. There are nine Facility Classes and one Suspense Account series. Under the Facility Classes there are Category Groups which in turn are composed of Basic Categories.

Up to this point we have been strictly concerned with the problem of the Public Works Program, but there is wording in this instruction which has much wider application. It states, "The Facility Classes and Construction Categories. . . shall be applied to planning and programming, budgeting, accounting, and reporting in the areas of construction, inventory, and maintenance (insofar as practicable) of real property." This insertion of maintenance into the picture under the chart of accounts will result in revising the current method of budgeting by all Bureaus and will require adjustment of Work Measurement relating to maintenance of Public Works. These could well be term papers in themselves. This paper will remain devoted to the Public Works Program, that is, new construction under the appropriation Public Works, Navy.

SecNav Instruction 11011.6

This letter transmits Department of Defense Instruction 4165.3 and places responsibility on the Chief of the Bureau of Yards and Docks for further implementation.

CHAPTER IV

THE ACCOUNTING SYSTEM

The accounting system developed by the Bureau of Yards and Docks Committee is complete only in chart form. The Committee has not yet prepared written procedures, nor as of the date of this writing, has approval been obtained from the Navy Comptroller. Presentations have been made to the Comptroller and the Chief of the Bureau of Yards and Docks, and approval in principle from these officers has been obtained.

A field trip was made by the Committee to the Sixth Naval District Public Works Office to ascertain if there were any local complications which mitigated against the major objectives or the accounting details. A few minor problems were isolated and corrected, and the District Public Works Officer indicated a desire to proceed in his District under the new system in the implementation of the FY 1956 program.

The Committee settled early on two major objectives, namely, (1) to reduce the number of allotments as much as possible, and (2) to utilize an accrual system of accounting in order to provide fiscal reporting which would be geared exactly to construction progress. Both of these objectives have been attained, and their attainment has been achieved within the framework of the existing accounting and disbursing procedures of the Navy.

Reduction in Allotments

In order to reduce the number of allotments, the Committee attacked the basic concept of an allotment which is a means of bureau control through one document which specifies a program of work and grants a specific number of dollars for its accomplishment.

The objective of the Cooper Committee is to obtain an Authorization Bill of approximately three years duration with annual additions thereafter. Coupled with this, it was envisioned that the Services would prepare an annual request for appropriation based on the capabilities of their construction agencies. The appropriation request would outline a planned, time phased program of work.

This objective carried down to the field construction agency permits doing away with Bureau allotments. The Bureau Committee envisions the District Public Works Offices as arms of the Bureau. The Construction Division of the Bureau will control the Public Works Program by preparing programs of work for each station in accord with the authorizing and appropriating legislation. These will be forwarded to the appropriate District Public Works Offices. The Comptroller Division of the Bureau will obtain apportionment of the entire funds and allocate them to District Public Works Offices in the proper amount to cover the program assigned. This sets the District Public Works Officer up in business with a bank account. The possibility of double entry bookkeeping with monthly trial balances or balance sheet statements can be envisioned.

By this method, actual appropriation control accounting is depressed to the field level. The Bureau appropriation control ledger will be but a summary of reports from the Districts.

This system reduces the scalar chain of control by requiring more pre-planning by the Bureau. It removes the Bureau from intimate control as formerly exercised through individual allotments for projects, but it gives the Bureau more overall objective control by its development of the program documents. These documents in fact become "budget execution" plans which heretofore have been lacking.

To acquire a reduction of scalar control there must be a decentralization of authority. Under the proposed system the District Public Works Officers will have plans for their year's work and separate bank accounts which will enable them to use some discretion in the execution of those plans subject to certain Bureau limitations. They will be able to take quick advantage of slack construction periods for certain types of work. Hitherto, with a lack of an overall plan of activity and having to wait upon the Bureau to obtain apportionment and provide allotments on an individual basis, this and many other expeditious actions were not possible. An additional advantage of foreseeing staffing requirements is also apparent.

The Accrual System

With the exception of Working Funds, Navy appropriations are accounted for on the basis of obligations. If you never over-obligate, you will never over-expend. Obligations are meaningful only for that purpose. In the procurement of long lead time items, such as Public Works construction, obligation reporting does not tell the status of the program. It tells how many dollars have been dedicated to a purpose but does not tell us how much of that

purpose has been accomplished. On the other hand expenditure reporting is not particularly tied to physical progress of the program and lags so greatly as to be of little value either. For practical usage of accounting data we must be concerned with "pre-payments" and "accounts payable" as well as prior payments. To this end the Bureau Committee adopted an "Accrued Cost Register" as well as the basic "Obligation" and "Expenditure" ledgers for appropriation control.

In the construction program the Committee desired to adopt the business attitude that the buyer accepts a liability when the goods is delivered as ordered. There are two basic reasons why progress payments in construction work will differ from the physical quantity of the work in place at the time of the progress payment. In the early stages of a contract, the contractor may have put very little work into place but may have spent many of his own dollars in assembling his forces, equipment, materials, construction camp, insurance, performance bond premium and so forth. These are mobilization costs for which, in the opinion of the contracting officer, the contractor may be entitled to a progress payment in excess of the actual value of the work in place. Secondly, the buyer in a construction contract, depending upon the reputation of the contractor, the size of the contract, the progress and so on, may withhold a percentage of the progress payment to insure future performance. This retention is particularly important in the latter stages of a contract should the contractor run over the time limit and incur penalties.

The accrued cost system permits obligation and expenditure reporting to proceed as before but also provides for reporting exactly on the basis of the value of the work in place. Each

contract must be evaluated at the time of a contractor's request for partial payment under the old system. The new system does not change this, but it does require an accounting entry of the value of the work in place at the time of the payment voucher approval.

The Committee readily admits that reports of progress on contracts, or even individual features within contracts, can be obtained separately from accounting records, but such reports are incapable of consolidation by stations, by districts or by the appropriation as a whole. The accrual basis of accounting with the dollar as a common denominator can relate percentages of physical progress on unrelated items to the progress on the program. Furthermore, progress reports based on percentages change if the scope of the work is altered by change orders, and such reports are not generally prepared with the finality and care of accounting reports.

There are two subsidiary records which support the "Accrued Cost Register" of all construction in the District. There is a "Feature Cost" ledger for each account of a station's program. The "Station Cost" ledger is a summary of the accrued cost of all the accounts for the station. Then the summary of the "Station Cost" ledgers of all the stations in the District is the "Accrued Cost Register" of the District program.

The final point of discussion before proceeding into the illustrations of the system is the use of double entry bookkeeping by the District Public Works Offices. The District Public Works Officer is operating on a balance sheet type of accounting. He starts with a debit or asset account of cash and a balancing

credit or net worth account of undelivered orders of government investment. He converts cash to fixed assets by crediting the cash account and debiting the various fixed asset accounts. When he completes a job he transfers a fixed asset from his books to the plant account of a station and accordingly reduces the net worth item of undelivered orders of government investment.

Illustrations

Because of the bulk of the illustrations they are placed in order at the end of this chapter. These illustrations will not be too meaningful unless a person wishes to study them minutely. They are included more as evidence of the Committee's work and as examples of one of the steps involved in system installation. All of the objectives and ideas behind these illustrations have been discussed above. Furthermore, when the work of the Committee is completed there will be a comprehensive handbook prepared on the detailed procedures to be followed in installing and operating this new accounting system. As of this writing the Committee is considering revisions to ledger titles, certain entries and the format of the illustrations. The basic objectives, however, remain unchanged.

Figure 1 entitled "Military Construction Program" is an overall portrayal of the system recommended by the Cooper Committee with the extension of their ideas to the District Public Works Office level. This chart describes the basic concept of separating program assignments from funds and points up the decentralization of authority to District Public Works Officers.

Figure 2 entitled "Relationship of Documents to Books of Original Entry and Subsidiary Ledgers" is a basic description of the accounting system. It indicates the extent of posting, the ledgers involved and the types of reports available from the system.

Figure 3 entitled "Fund and Program Control" shows the actual ledgers and indicates the entries to cover the receipt of program assignments and funds and the proper recording of commitments and obligations. This is the same method of accounting for obligations as understood under the present system.

Figure 4 entitled "Accounting for Lump Sum contracts" shows how expenditure records are maintained as under the present system, but also reveals the entries to the "Accrued Cost Register" as supported by the "Station Cost" ledger and the "Feature Cost" ledger.

Figure 5 entitled "Accounting for Station Force Work" is a companion to figure 4 and indicates the entries when the work is accomplished by station forces rather than by contract.

Figure 6 entitled "Accounting for Collateral - Donated" is also a companion to figure 4 and indicates the entries to record the value of materials which may be donated to the job by various Navy agencies from APA stocks for which reimbursement is not required.

Figure 7 entitled "Accounting for Collateral - Reimbursable" is a companion to figure 6 and indicates the entries to be made when various Navy agencies must be reimbursed for materials.

Figure 8 entitled "Accounting for Overhead" indicates the way in which overhead is costed into the job. Overhead is generated

in three ways, namely (1) by Bureau personnel in performing consulting work or programming, (2) by District Public Works personnel doing similar work, and (3) by inspectors on the site who determine compliance by the contractor with the plans and specifications of the contract.

The final figure, number 9, entitled "Reports" indicates the two basic reports on funds and progress and shows how the accounting records of the District Public Works Office support these reports.

It may be noted that the Committee prepared no details on the program assignment document or the Monthly Cost and Progress Report. The Committee's charter called for accounting work and the Committee felt that these two documents are in the province of the Construction Division of the Bureau.

CHAPTER V

CONCLUSIONS

The writer embarked upon this subject with some trepidation because of his tenderfoot status in the field of accounting. Throughout the early phases of working with the Committee he consistently sought for a fatal defect in the whole idea. This search led up many blind alleys, but the merits of the system became evident and the writer experienced a complete shift in attitude and truly enjoyed this assignment in system installation.

These searches for defects have not been completely useless, however, because they have armed the writer with rebuttals to the many engineers who will go through the same experience in being exposed to the system for the first time. In fact the major portion of this paper is devoted to explaining the principles of the system to offset some of the objections already received from brother officers in the operating end of the Public Works game.

The experience has been a rewarding one even though the results exhibited by the illustrations appear as an abstraction in the mystical art of accounting. The writer's purpose has been to outline the new developments in the Public Works Program, not to give a detailed lesson in accounting.

MILITARY CONSTRUCTION PROGRAM

NAVY SSDB SYSTEM

DETERMINES MILITARY NECESSITY,
SCOPE AND PRIORITY OF PROJECTS

ARMY

AIR FORCE

SPONSORS

JUSTIFICATIONS FOR
PROJECTS

BUDOCKS

RESPONSIBLE FOR
ENGINEERING AND
COST ESTIMATES
PROVIDES SUMMARY
OF PROJECTS BY
STATIONS IN COST
CATEGORIES.

PREPARES FINAL
JUSTIFICATIONS.

RESPONSIBLE FOR
TIME PHASING FOR
APPROPRIATION BILLS

SECDEF

DETERMINES MILITARY CONSTRUCTION PROGRAM
FOR ARMY, NAVY AND AIR FORCE

PREPARES AUTHORIZATION BILLS

PREPARES APPROPRIATION BILLS

PLANNING

AUTHORIZATION

BUDGET FORMULATION PHASE

JUSTIFIED TO CONGRESS AS A PLANNED CON-
STRUCTION PROGRAM FOR EACH STATION.

LEAD OFF BY SECDEF FOR DOD.

SECOND LEAD OFF BY SECNAV FOR NAVY
HEARINGS.

DETAILED JUSTIFICATION BY SPONSORS.

ENGINEERING & COST JUSTIFICATION BY BUDOCKS.

APPROPRIATION

BUDGET FORMULATION PHASE

NEED IS JUSTIFIED TO CONGRESS ON BASIS
OF THE AUTHORIZATION LAW AND ANY SUP-
PORTING DATA THERETO.

AMOUNT IS JUSTIFIED TO CONGRESS ON
BASIS OF BUDOCKS TIME PHASING OF PROGRAM.

BUDGET EXECUTION PHASE

PROGRAM

BUDOCKS SENDS BUREAU
APPROVED CONSTRUCTION
PROGRAM FOR EACH STA-
TION TO COGNIZANT DPWO.
PROGRAM IS DETERMINED
BY SCOPE INDICATED IN
AUTHORIZATION BILL AND
TIME PHASING IN APPRO-
PRIATION BILL. C-DIV
APPROVES, F-DIV COUN-
TERSIGNS.

FUNDS

BUDOCKS (F-DIV) OBTAINS
ALLOCATION OF TOTAL
APPROPRIATION VIA APPOR-
TIONMENT PROCESS AND
ALLOCATES TO COGNIZANT
DPWO'S (1 ALLOCATION
FOR ALL CONSTRUCTION
IN A DISTRICT) AMOUNT
MUST BE GEARED TO
BUREAU APPROVED PRO-
GRAMS FOR STATIONS.

APPROVING

FUNDING

IMPLEMENTING

PROGRAM ASSIGNMENT

FUND ALLOCATION

DISTRICT PUBLIC WORKS OFFICE

1. PLANS AND SCHEDULES PROGRAM IMPLEMENTATION.
2. DETERMINES METHOD OF ACCOMPLISHMENT; STATION FORCES, COLLATERAL, CONTRACTS.
3. AUTHORIZES CONTRACT PREPARATION, COLLATERAL PROCUREMENT & STATION FORCE WORK.
4. MAINTAINS PROGRAM AND FUND CONTROL RECORDS.
5. MAINTAINS ACCRUED COST RECORDS.
6. REPORTS ON CONSTRUCTION PROGRESS AND FUND STATUS.
7. UPON COMPLETION OF A PROJECT DETERMINES TOTAL COST AND OFFICIALLY TRANSFERS PROJECT TO THE ACTIVITY INVOLVED.

NAVY BUREAUS

ADVISE DPWO ON PROGRESS
OF PROCUREMENT OF COLLAT-
ERAL.

ROICC

REPORTS PHYSICAL COMPLETION
OF CONTRACT FEATURES (COST
CATEGORIES) BY CONTRACT.
APPROVES PROGRESS PAYMENTS
TO CONTRACTORS.
REPORTS UNDISTRIBUTED CHARGES
IN ORDER TO PROVIDE PERCENTAGE
COMPLETION OF TOTAL COSTS FOR
ACCTG & PLNT ACCT PURPOSES.

STATIONS

REPORT STATUS OF OBLIGATIONS
ON NAVEXOS 3443 TO DPWO.

REPORTS JOB ORDER COSTS.

DEPARTMENT OF THE NAVY

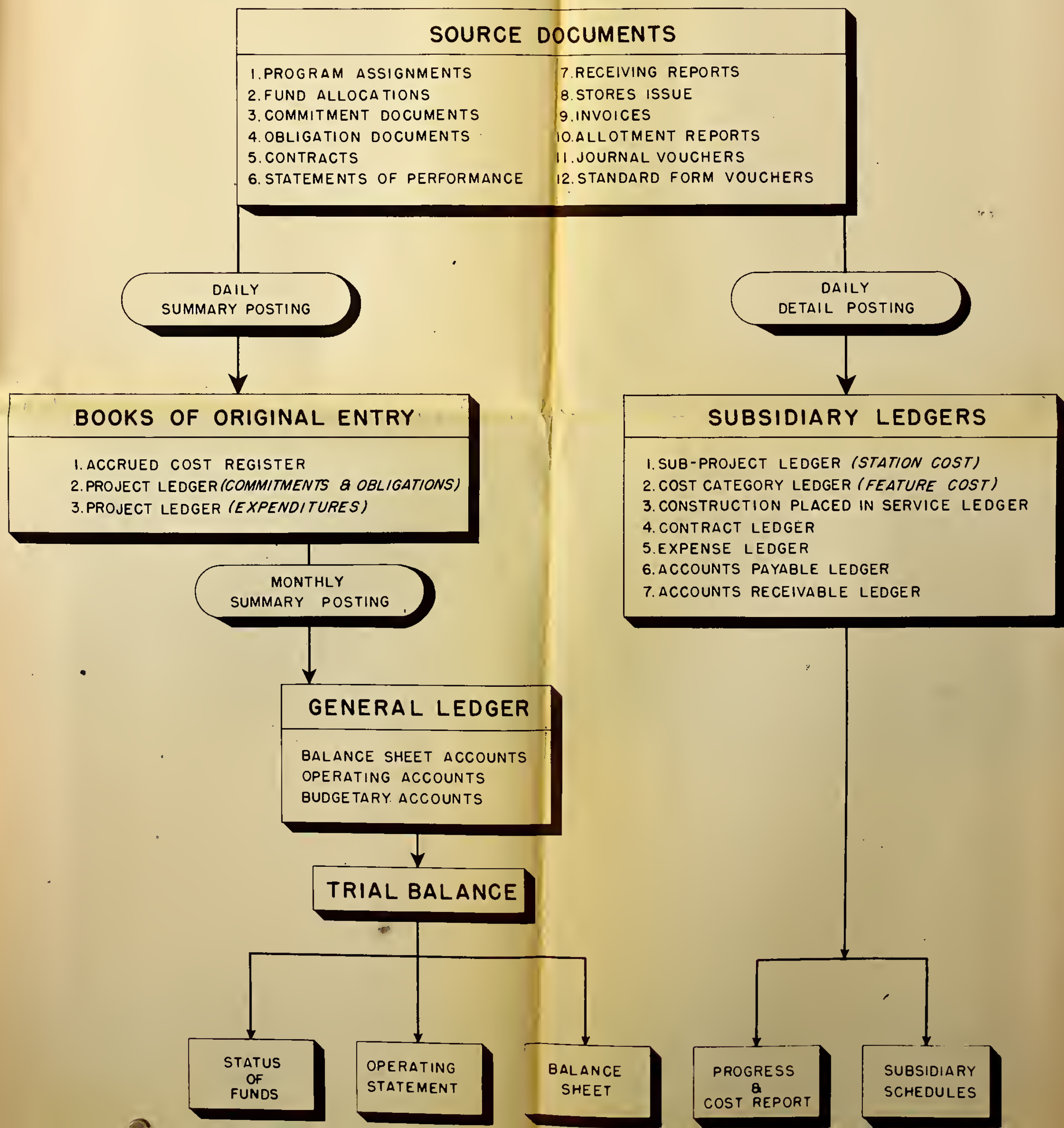
MILITARY CONSTRUCTION PROGRAM

RELATIONSHIP OF DOCUMENTS

TO

BOOKS OF ORIGINAL ENTRY

GENERAL LEDGER AND SUBSIDIARY LEDGERS



DEPARTMENT OF THE NAVY MILITARY CONSTRUCTION PROGRAM FUND AND PROGRAM CONTROL

NAV DOCK#

ALLOCATION OF FUNDS

TO:	Appropriation Symbol & Title
(DPWO)	Allocation Project Number
From:	Type of Allocation:
(BUDOCKS)	<input type="checkbox"/> New <input type="checkbox"/> Amendment No. _____
Reference:	
① Prior Allocation _____ ② Allocation (Inc or Dec) _____ ③ Total Allocation to Date _____	
Purpose:	

Date Approved

Approved

Signed _____
Name & Rank or title of Allocating official

NAV DOCKS

PROGRAM ASSIGNMENT

NAYEX05 -3489 -
approved revision for BuDocks

PROJECT LEDGER

COMMITMENTS AND OBLIGATIONS

Sheet No.
Appropriation No.
Budget Activity No.
Project No.

DPWO

PROGRAM ASSIGNMENT

Date	Description	Fund	Commitments	Obligations	Uncommitted	Unobligated	Program Assignments		
		Allocations					Recorded	Issued	Balance Unissued
		(+)			(+)		(+)		(+)
			(+)		(-)	(+)		(+)	(-)
				(-)					

SUMMARY

SUB-PROJECT LEDGER
STATION COST

NAVCOMPT-

Sheet No.	
Station	
Station Code	
Appropriation No	
Project No	

Date	Description	Program Assignments Issued	Commitments	Obligations	Uncommitted Program	Unobligated Commitments	Accrued Costs		
							Funded	Donated	Total to Date
		(+)	- - - - -	- - - - -	(+)				
		- - - - -	(+)	- - - - -	(-)	(+)			
		- - - - -	- - - - -	(-)	- - - - -	(0)			

DETAIL

1. 1

MEMO ONLY

COST CATEGORY LEDGER

FEATURE COST

NAYCOMPT -

Sheet No. _____
Cost Category No. _____
Appropriation No. _____
Station _____
Previous Estimate _____

Date	Description	Accrued Funded Costs				Non funded Donated	Accrued Cost Total
		NOy Contract	Govt. Furn.	Sta. Forces	Overhead/Applied		

COMMITMENT
DOCUMENTS

OBLIGATION
DOCUMENTS

NAYEXOS - 3439 -
approved revision for BuDocks

Sheet No.
Appropriation No.
Budget Activity No.
Project No.

[illegible]

STATEMENT
OF
PERFORMANCE
(WITH OR WITHOUT INVOICE)

NAYCOMPT-

Sheet No.	
Station	
Station Code	
Appropriation No.	
Project No.	

Date	Description	Program Assignments Issued	Commitments	Obligations	Uncommitted Program	Unobligated Commitments	Accrued Costs		
							Funded	Donated	Total to Date
							○ ↑ ○ FUTA, ON STATION		

NAYCOMPT -

Значит
Судебный
Процессуальный
Закон
и др. и др.

Date	Description	Accrued Funded Costs				Non-Funded Donated	Accrued Cost Total
		NOA Contract	Govt. Furn.	Sta. Forces	Overhead/Exp.		
		○					
		↑					
		○					

S. F. 1034
(PAID COPY)

NAYCOMPT -

Sheet No.	
Appropriation No.	

Date	Description	Debits			Credits					Transfers In
		Undistributed Accrued Costs	Other Account	✓ Amount	A/c Payable No Contract	Unaudited A/c Payable	A/c Payable Other	Undisbursed A/c Pay (Costs)	Unaudited Mat'l & Sup.	
			(WHEN INVOICED)							
			(WHEN NOT INVOICED)							

APPROPRIATION
REGISTER
NO. 5

NAVEXOS - 3440 -
Approved Revision for BuDocks

Sheet No	
Appropriation No	
Project No.	RESEARCH

The diagram illustrates the Accounting Cycle, showing the flow of transactions between a contractor and a government agency. The cycle includes steps for recording transactions, adjusting entries, and closing entries, with a final step for reversing entries. The diagram uses circles with plus and minus signs to represent debits and credits, and arrows to show the flow of the cycle.



Accounting Cycle Steps:

1. Record transactions in the journal.
2. Post transactions to the ledger.
3. Prepare a trial balance.
4. Adjusting entries.
5. Closing entries.
6. Reversing entries.

Flow of Transactions:

- Contractor's Perspective:**
 - Debit: Cash (CASH)
 - Credit: Revenue (REVENUE)
- Government Agency's Perspective:**
 - Debit: Expense (EXPENSE)
 - Credit: Payable (PAYABLE)

The diagram shows the flow of transactions between the Contractor and the Government Agency, with the Contractor's perspective on the left and the Government Agency's perspective on the right. The cycle includes steps for recording transactions, adjusting entries, and closing entries, with a final step for reversing entries.

Date	Description	Payment Journal Debits						Project (App Register) Expenditures		
		Credit to Accounts and Allowance (Push)	Conting. Contract	Other Public Voucher	Account	other ✓	Amount	Allotment	Bureau	Total
										

NAVEXOS - 3489 -
approved revision for BuDocks

Sheet No. _____
Appropriation No. _____
Budget Activity No. _____
Project No. _____

[illegible]

NAVCOMPT-

Sheet No. _____
Station _____
Station Code _____
Appropriation No. _____
Project No. _____

Date	Description	Program Assignments Issued	Commitments	Obligations	Uncommitted Program	Unobligated Commitments	Accrued Costs		
							Funded	Donated	Total to Date
							○ SUMMARY	○ SUMMARY	

NAVCOMDT-

Sneezy
 Cautious
 Sleepy
 Scary
 Happy

Date	Description	<u>Accrued Funds Costs</u>				<u>Marianna Dam Reg.</u>	<u>Accrued Cost Total</u>
		<u>Navy Contract</u>	<u>Govt Furn.</u>	<u>Sta. Forces</u>	<u>Overhead Applied</u>		
				○		○	
				┌	DETAIL	└	

PERFORMANCE
(STATION FORCE WORK)

NAYCOMPT -

Sheet No. _____
Appropriation No. _____

[illegible]

(ALLOTMENTS)

HAILED -

1104
Assignment No.
Appropriation No.
Job Order No.

Description: _____
 Location: _____
 Contractor: _____
 Address: _____

Date	Description	Debit Debit Credit	Obligations	Contractor Earnings	Unearned Balance	Payments	Unpaid Earnings

HAVEKOS 3440
Approved Revision for BuVacks

Sheet No. _____
Appropriation No. _____
Project No. _____
(SUMMARY)

Payment Journal						Project (App Register) Expenditures				
Date	Description	Credits disbursed Allotments (Cash)	Debits				Attachment	Bureau	Total	
			1009 Contract	1010 Public Voucher	1011 Account	Other				Amount

NAVEXOS - 3489 -
approved revision for BuDocks

PROJECT LEDGER

COMMITMENTS AND OBLIGATIONS

Sheet No.
Appropriation No.
Budget Activity No.
Project No.

[illegible]

NAYCOMPT-

SUB-PROJECT LEDGER
STATION COST



Sheet No. _____
Station _____
Station Code _____
Appropriation No. _____
Project No. _____

[illegible]

NAYCOMPT -

COST CATEGORY LEDGER

Sneezing
 Coughing
 Discharge
 Stuffy
 Runny

Date	Description	Accrued Funded Costs				Max. Index Deducted	Accrued Cost Total
		Navy Contract	Govt. Furn.	Sta. Forces	Overhead Applied		
							
							

NAVJAG FORM 870

APA
MATERIAL
SUMMARY

NAYCOMPT -

ACCRUED COST REGISTER

Sheet No. _____
Appropriation No. _____

Date	Description	Debits			Credits					
		Distributed Accrued Costs	Other Account	Amount	A/c Payable Ndy Contract	Unaudited A/c Payable	A/c Payable Other	Undisbursed Allow (Costs)	Estimated Mat'l & Sup.	Transfers In

COST REGISTER
NO. 52
APA
MATERIAL

RECONCILE

DPWO CONTRACT LEDGER

NOy
Assignment Ho
Appropriation Ho
Job Order Ho

Description:
 Location:
 Contractor:
 Address:

Date	Description	Invoice Date	Obligations	Contractor Earnings	Unearned Balance	Payments	Unpaid Earnings
------	-------------	-----------------	-------------	------------------------	---------------------	----------	--------------------

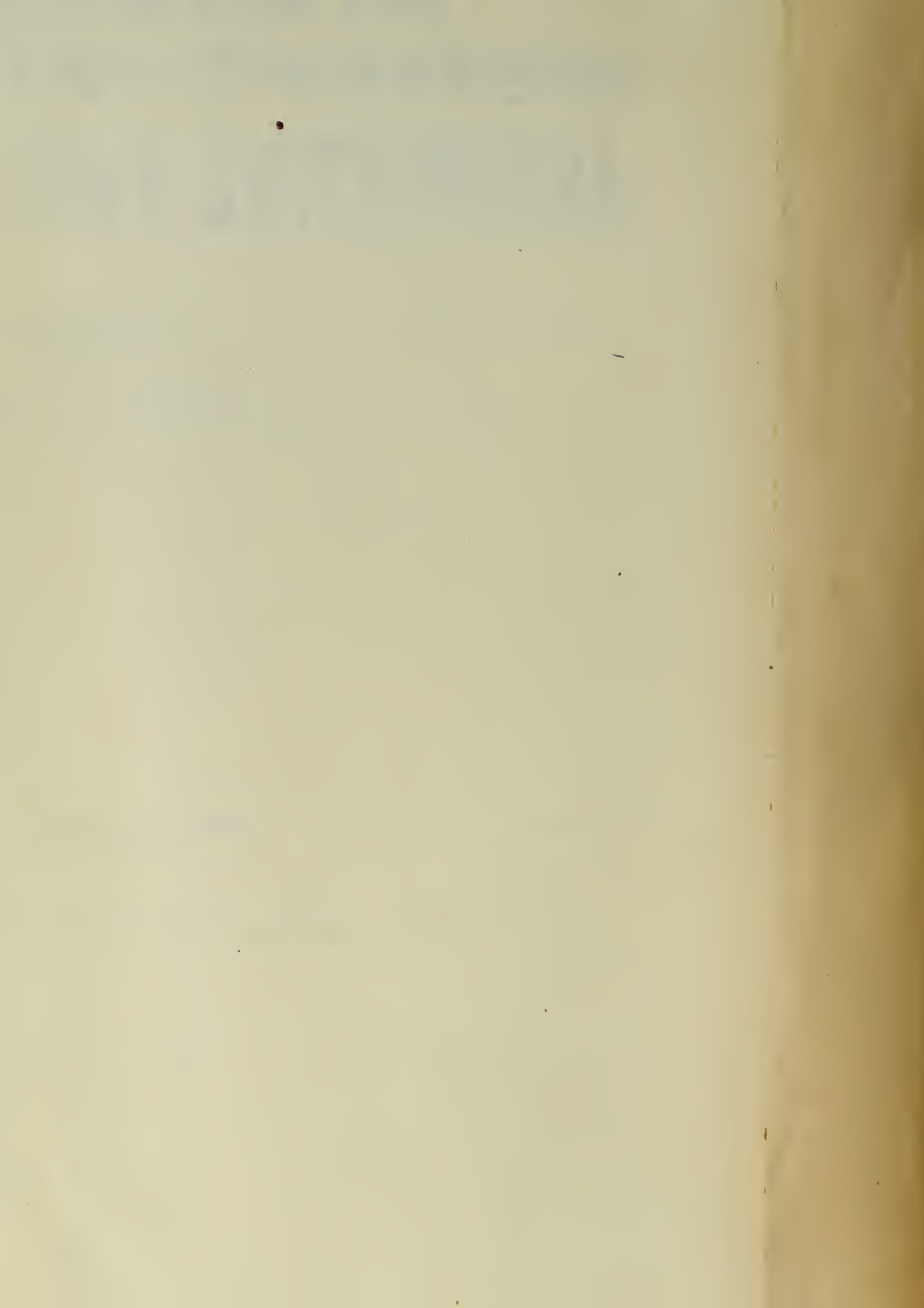
NAVEKOS - 3440 -
Approved Revision for BuDocks

PROJECT LEDGER

EXPENDITURES

Sheet No. _____
Appropriation No. _____
Project No. _____

[illegible]



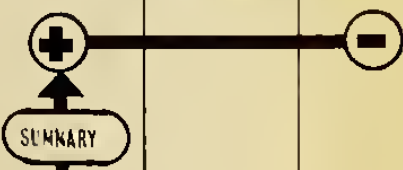
DEPARTMENT OF THE NAVY MILITARY CONSTRUCTION PROGRAM ACCOUNTING FOR COLLATERAL-- REIMBURSABLE

NAVEXOS-3439-
approved revision for BuDocks

PROJECT LEDGER COMMITMENTS AND OBLIGATIONS

Sheet No.	
Appropriation No.	
Budget Activity No.	
Project No.	

Date	Description	Fund Allocations	Commitments	Obligations	Uncommitted Fund Allocations	Unobligated Commitments	Program Assignments		
							Received	Issued	Balance Unissued



NAVCOMPT-

SUB-PROJECT LEDGER STATION COST

Sheet No.	
Station	
Station Code	
Appropriation No.	
Project No.	

Date	Description	Program Assignments Issued	Commitments	Obligations	Uncommitted Program	Unobligated Commitments	Accrued Costs		
							Funded	Donated	Total to Date



STUB REQ'N 129
STUB REQ'N 129
STUB REQ'N 129

VOUCHER

S.F. 1080
(ADVANCE COPY)

NAVCOMPT-

COST CATEGORY LEDGER FEATURE COST

Sheet No.	
Cost Category No.	
Appropriation No.	
Station	
Program Estimate	

Date	Description	Accrued Costs				Funded Costs			Non Funded Donated	Accrued Cost Total
		NOy Contract	Govt. Furn.	Sta. Forces	Overhead Applied	NOy Contract	Govt. Furn.	Sta. Forces		



VOUCHER

S.F. 1080
(PAID COPY)

NAVCOMPT-

ACCRUED COST REGISTER

Sheet No.	
Appropriation No.	

Date	Description	Debits				Credits					
		Distributed Accrued Costs	Other		A/c Payable NOy Contract	Unaudited A/c Payable	A/c Payable Other	Undisbursed Alloc. (Cash)	Distributed Mat'l & Sup.	Transfers In	
			Account	Amount							



APPROPRIATION REGISTER

NO. 5

NAVDOCK-

DPWO CONTRACT LEDGER

NOy	
Assignment No.	
Appropriation No.	
Job Order No.	

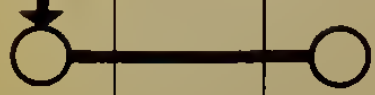
Date	Description	Contract Dates	Obligations	Contractor Earnings	Unearned Balance	Payments	Unpaid Balance

NAVEXOS-3440-
Approved Revision for BuDocks

PROJECT LEDGER EXPENDITURES

Sheet No.	
Appropriation No.	
Project No.	

Date	Description	Credits Undisbursed (Cash)	Payment Journal Debits				Project (Appn. Register) Expenditures		
			NOy Contract	Other Public Voucher	Account	Amount	Allocation	Bureau	Total



DEPARTMENT OF THE NAVY

MILITARY CONSTRUCTION PROGRAM

ACCOUNTING FOR OVERHEAD

NAVCOMPT - SUB-PROJECT LEDGER STATION COST									
<div style="float: right; border: 1px solid black; padding: 2px;"> Sheet No. _____ Station _____ Station Code _____ Appropriation No. _____ Project No. _____ </div>									
Date	Description	Program Assignments Issued	Commitments	Obligations	Uncommitted Program	Unobligated Commitments	Accrued Costs		
							Funded	Donated	Total to Date
			+	+			○	○	

NAVCOMPT - COST CATEGORY LEDGER FEATURE COST									
<div style="float: right; border: 1px solid black; padding: 2px;"> Sheet No. _____ Cost Category No. _____ Appropriation No. _____ Station _____ Project No. _____ </div>									
Date	Description	Accrued Funded Costs				Non-Funded Donated	Accrued Cost Total		
		NOy Contract	Govt. Furn.	Sta. Forces	Overhead Applied				
					+	+			

NavSanda 885

OVERHEAD ADJUSTMENT			
Debit (District)			
Allo. #	Exp. Asst.	Amount	
96---	48226	\$65.00	
Credit (Bureau)			
96---	48225	\$65.00	
		\$ -0-	

OVERHEAD APPLIED					
DESCRIPTION	DEBIT	CREDIT			
Total	Acrr. Cost	Bureau	District	Total	
Feature	XXX	XX	XX	XX	
Feature	XXX	XX	XX	XX	
Feature	XXX	XX	XX	XX	
Station Total	XXX	25	75	100	
Feature	XXX	XX	XX	XX	
Feature	XXX	XX	XX	XX	
Feature	XXX	XX	XX	XX	
Station Total	XXX	40	160	200	
Grand Total	XXX	65	195	260	
General Ledger Entry					
Construction in Progress				260	
District Overhead Applied					195
Bureau Overhead Applied					65

NAVCOMPT - ACCRUED COST REGISTER										
<div style="float: right; border: 1px solid black; padding: 2px;"> Sheet No. _____ Appropriation No. _____ </div>										
Date	Description	Debits			Credits					
		Distributed Accrued Costs	Account	Amount	A/c Payable NOy Contract	Unaudited A/c Payable	A/c Payable Other	Undisbursed Alloc. (Cash)	Donated Mat'l & Sup.	Transfers In
			Bureau Overhead	○						○
			District Overhead	○						○

OVERHEAD APPLIED					
DESCRIPTION	DEBIT	CREDIT			
Total	Acrr. Cost	Bureau	District	Total	
Feature	XXX	XX	XX	XX	
Feature	XXX	XX	XX	XX	
Feature	XXX	XX	XX	XX	
Station Total	XXX	25	75	100	
Feature	XXX	XX	XX	XX	
Feature	XXX	XX	XX	XX	
Feature	XXX	XX	XX	XX	
Station Total	XXX	40	160	200	
Grand Total	XXX	65	195	260	
General Ledger Entry					
Construction in Progress				260	
District Overhead Applied					195
Bureau Overhead Applied					65

NAVCOMPT - SUB-PROJECT LEDGER STATION COST									
<div style="float: right; border: 1px solid black; padding: 2px;"> Sheet No. _____ Station _____ Station Code _____ Appropriation No. _____ Project No. _____ </div>									
Date	Description	Program Assignments Issued	Commitments	Obligations	Uncommitted Program	Unobligated Commitments	Accrued Costs		
							Funded	Donated	Total to Date
			○	○			○	○	
			+	+			+	+	

Distributed → Incurred →

Posted in Summary to District Cost Ledger

MONTHLY PERFORMANCE REPORT
DEMO OVERHEAD
 COMMITMENTS
 OBLIGATIONS
 ACCRUED COSTS
 (Funded Only)

MONTHLY PERFORMANCE REPORT
DEMO OVERHEAD
 COMMITMENTS
 OBLIGATIONS
 ACCRUED COSTS
 (Funded Only)

District

Accrued Cost (Weekly)
Completion Report
Transfer to Slotting

+			+
-	+		
		+	-

<u>CASHIER'S FUND REPORT</u>		
[] Directly from Project Ledger and General Cost Register		
TO:	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Main Entry Allocation No. _____ Appropriation _____ </div>	
FROM:	I certify that the amounts reported on this form are based on prescribed accounting records maintained under my direction. <div style="text-align: right;"> (Signed) _____ <i>State and Rank of Accounting Official</i> </div>	
DETAILS OF ALLOCATIONS		
		Balance
1. Anticipated Allocation (Only):		
(a) Allocation Receiver (Only) (Col. 1, Project Ledger)	/	
(b) Expense (Only) (Col. 1, Project Journal)	/	
(c) Expense (Only) (Col. 1, General Cost Register)	/	(d) _____
2. Account Payables:		
(a) Amount (Col. 1, 1, 1 of General Cost Register)	/	
(b) Expense (Only) (Col. 1, General Journal)	/	(c) _____
3. Debt Method (under):		
(a) Allocation Receiver (Only) (Col. 1, Project Ledger)	/	
(b) Allocation Receiver (Only) (Col. 1, 1, 1 of General Cost Register)	/	(c) _____
4. Unliquidated Balances:		
(a) General (Only) (Col. 1, Project Ledger)	/	
(b) Unliquidated (Only) (Col. 1, Project Ledger)	/	(c) _____
5. Expense Allocation Register or of _____ (Col. 1, Expense Ledger)		/
SUBTOTAL OF ALL ALLOCATIONS		
<u>Sum of each</u>		
		Current Month F.Y. To Date
1. Fund Allocation Receiver Current Year (Col. 1, Project Ledger)		
2. Fund Allocation Receiver, Total and Summary (Col. 1, 1, 1, Project Ledger)		
3. Current Allocation Receiver (Col. 1, General Cost Register)		
4. Total Available		
5. Current Cost (General Appropriation) (Col. 1, 1, 1 of General Cost Register)		
6. Construction (a) General (b) Special or Required		
7. Construction or Transfer of General Materials and Supplies (Only, 1, General Cost Register)		
8. Anticipated Current and General (Same as Line 1 of this Report)		
9. Total Allocation General		
10. Unliquidated Balance		
SUBTOTAL OF CURRENT MONTH (a) F.Y. TO DATE AND TRANSFERS		
		With From To Date
1. Construction Work In Progress (From EPSC Construction Record)		
2. Construction Complete (From EPSC Construction Record)		
3. Current Work Transferred (From EPSC Construction Record)		
4. Balance of Construction on Hand (From EPSC Construction Record)		

Station

[illegible][illegible]

Construction Activities Working Group
Report on

Military Construction Program

Prepared for
Advisory Committee on Fiscal Organization and Procedures
Office of the Secretary of Defense
Washington, D. C.

April 1954

Keece Harrill Case 163-
TOW 10-50 X-515-00
176

CONSTRUCTION ACTIVITIES STAFF

MR. E. M. VOORHEES Committee Member
(Chairman, Finance Committee,
United States Steel Corporation)

MR. E. R. HARRILL Director
(Associate Director,
Accounting Systems Division,
General Accounting Office)

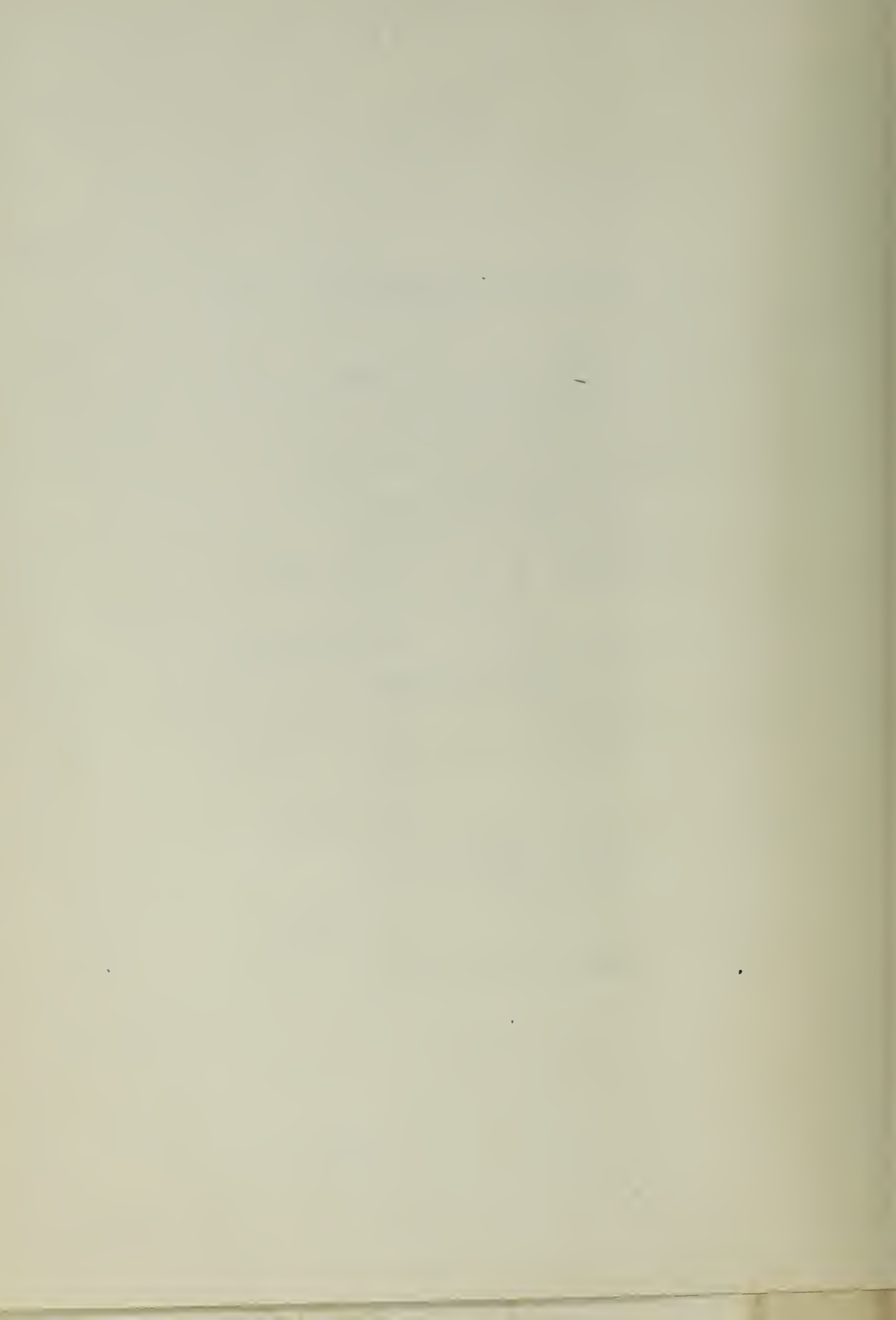
MR. G. E. SHIPWAY Staff Member
(United States Steel Corporation)

MR. J. J. WALSH Staff Member
(Vice President,
Walsh Construction Company)

MR. J. M. ROBINSON Staff Member
(Musick, Peeler and Garrett
Law Firm)

MR. J. W. COCHRANE Staff Member
(Budget Officer
Bureau of Yards and Decks,
Navy Department)

MR. C. W. MACLEOD Staff Member
(Accountant for
Walsh Construction Company)



OFFICE OF THE SECRETARY OF DEFENSE
Washington 25, D.C.

ADVISORY COMMITTEE ON FISCAL ORGANIZATION AND PROCEDURES

April 26, 1954

Mr. Charles P. Cooper
Chairman, Advisory Committee on
Fiscal Organization and Procedures

Dear Mr. Cooper:

I am pleased to submit herewith the reports of Findings and Recommendation made by the Working Group for Construction Activities consisting of two parts.

Part I consists of a summary of the findings and fourteen major recommendations which should coordinate and strengthen the programming and financial procedures of the military construction activities, from both the standpoint of increased usefulness for managerial and operating purposes and a better understanding by all concerned of the program.

Part II consists of a proposal for financial procedures and controls of the military construction activities, which is geared into planning as well as operations. This part explains the concepts and principles back of the major recommendations. An attempt has been made to present this part of the report in a manner so that it may be used as an outline, or guide, in preparing operating instructions and manuals of procedures, as well as to be a brochure explaining to interested officials how a coordinated plan may be operated.

In view of the fact that most of the planning and financial problems relating to military construction activities can be separated from those of other activities of the Department of Defense, it is the opinion of this Working Group that the recommendations contained in this report should be approved as soon as possible, rather than wait until the final report of the Committee is submitted. If approval can be given to this report as a whole, or in part, the Department of Defense and the Services could start immediately with plans for the development and installation of the system.

E. M. Voorhees
Committee Member

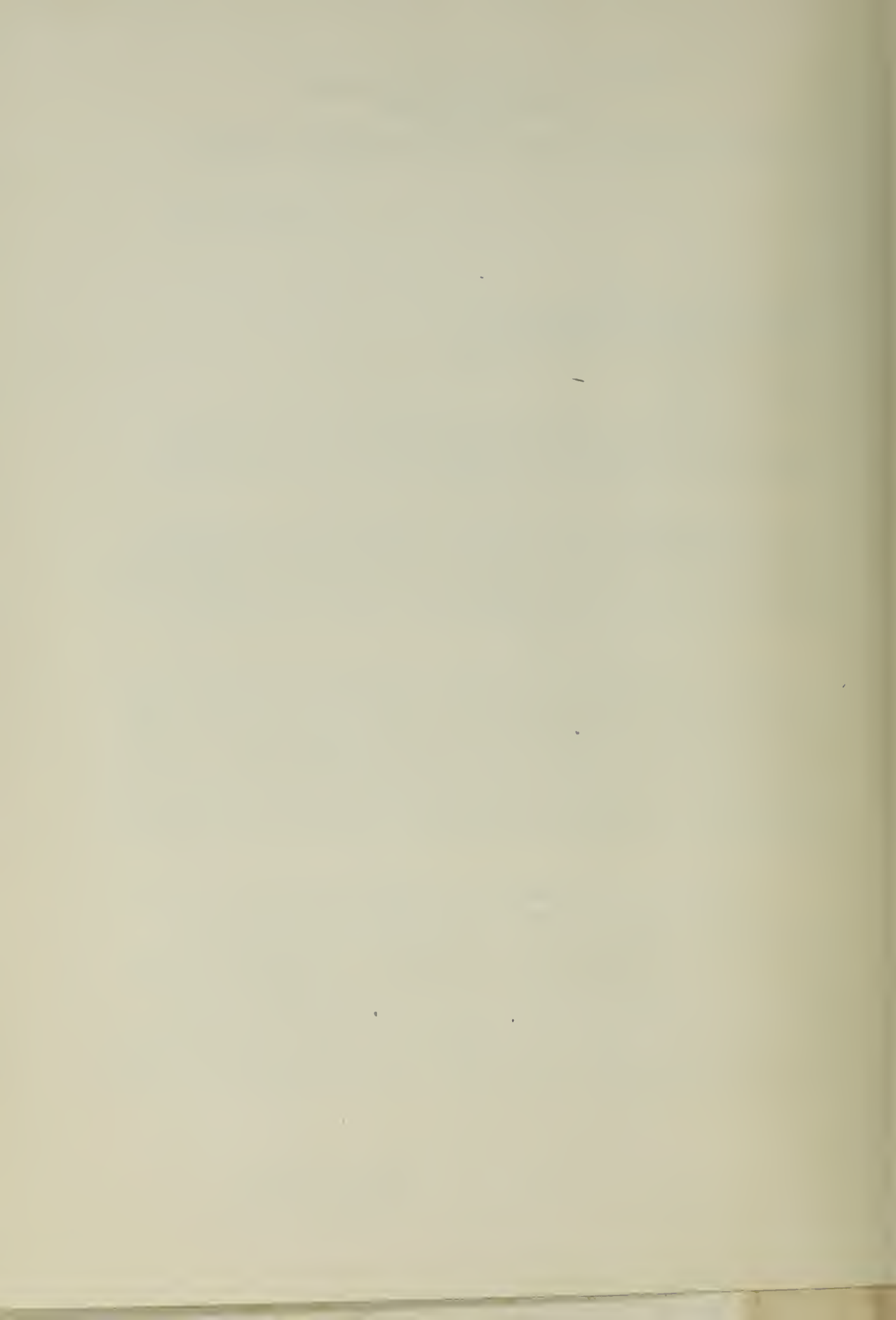


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PART I

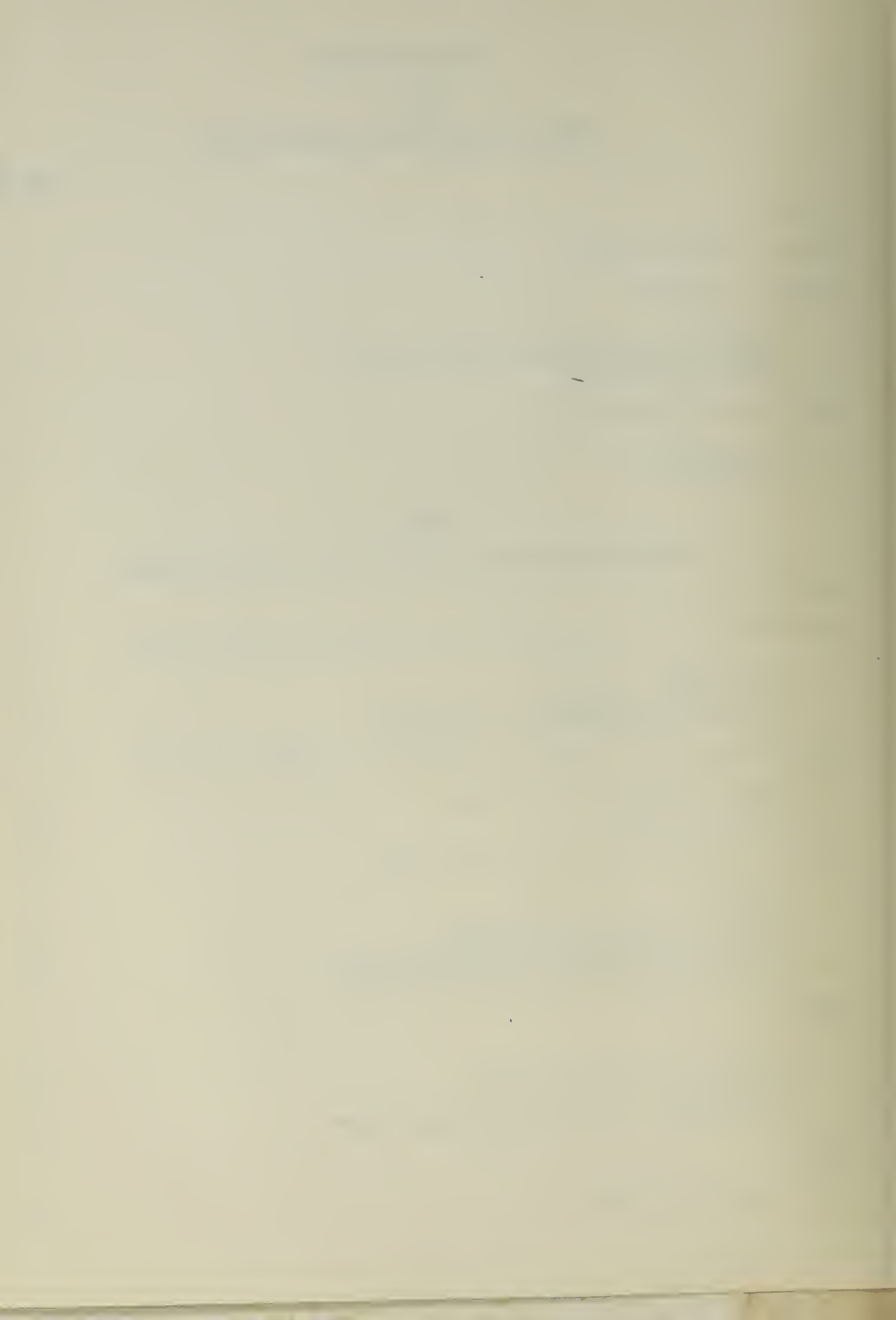
SUMMARY OF FINDINGS AND RECOMMENDATIONS

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PART II

PROPOSED PROCEDURES FOR THE MILITARY CONSTRUCTION PROGRAM

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PART I

SUMMARY OF FINDINGS AND RECOMMENDATIONS

INTRODUCTION

Included is a summary of the findings on the Construction Activities of the Department of Defense, together with the major proposals and recommendations of the essentials of a sound financial control system of planning and carrying out the construction program.

The report is presented with the point of view that a financial planning system and a construction cost control system, properly geared to operating conditions and management needs, will assist the Department of Defense in obtaining as much as possible with the funds appropriated by the Congress.

The proposals of the Committee are centered around the three primary elements of a construction program. These are; First, the planning and programming stages; second, the coordinating; and third, the control.

The planning phase is essential in order to determine what are the military public works problems. Only after knowing the problems can solutions be worked out. Planning and programming also serve the purpose of defining objectives, and as a declaration of policy. Planned work and approved programs provide a means of informing the district offices and construction engineers of what is to come and what is expected of them.

Coordination is, in many respects, the most important phase in carrying out a construction program as large and widespread as that of the Defense Department. Policies, guide lines, and clearly defined objectives must be issued to all concerned. Unhampered and undivided responsibility and authority must be delegated and assigned to different organizations and levels of operations. Human effort must be correlated and coordinated within the planning and execution of the program. The purpose of coordination is to direct

the use of funds, other resources, and the efforts of organizations into the most advantageous channels by means of a balanced and unified program, without duplication or waste of effort.

A procedure for construction cost control is the life line for any public works construction program. Effective control can be obtained by a good cost accounting system, and a system of reports, properly related to estimates and schedules of work. Reports can be used to tell whether the program is on schedule, to reflect danger points on over-and-under runs, and whether the program is being carried on within the available funds. As used herein the term control is used in the broadest concept. The purpose of effective control is to keep the program on the track and in accordance with approved schedules, to keep management informed of the progress, and to point up areas where action needs to be taken. Control does not necessarily mean applying the brakes, and holding back the program.

SCOPE OF COMMITTEE'S WORK

The efforts of the working group for Construction Activities encompassed the following:

1. A study and evaluation of the existing procedures of the Construction Activities of the Department of Defense.
2. A review of proposed procedures and procedures in the process of development and installation.
3. The development of recommendations and a proposed procedure for the military public works programs. A proposed procedure is included in Part II of the report. It represents a combination of those portions of the existing procedures which are considered good, some portions of the plans being developed and installed, and further recommendations and proposals of the Committee.

SUMMARY OF FINDINGS

General The Services and the Department of Defense are operating with outmoded systems of accounts and financial procedures, which have grown up over the years, and which are not geared to operating conditions and field work. Programs and budgets, for both authorizations and appropriations, have not presented a complete picture of the construction programs of the various stations. Not only has

management been denied effective control over the work, knowledge of progress and accurate information as to costs, but presentations and justifications of programs to the Congress and the Bureau of the Budget have been difficult.

Improvements and Corrective Actions Under Way The Department of Defense and the Services are well aware of these cumbersome and ineffective procedures and certain steps have been taken, or are being taken, which will assist in correcting the existing deficiencies. Some of the basic things developed, or in the process of development, are explained in the subsequent paragraphs.

Plans have been initiated in the Department of Defense for instituting master station development plans whereby a station, base, or installation, is used as a control point for planning the public works program. The master plan should assist greatly in developing advanced plans for construction work.

The Department of Defense and the Services have initiated programs for advanced planning for the military public works program. This advanced planning, which relates to the master plans, will form a foundation for building sound budgets and work programs for the Construction Activities.

The Navy Department has developed a proposal for a system of programming, budgeting, and reporting for the Navy Department which, if adopted and coordinated with other over-all requirements of the Department of Defense, will provide a good system for the construction program.

The Air Force has developed a catalogue for installation facilities and structures which forms a good basis for a common denominator classification for construction cost accounts. The Office of the Secretary of Defense has also developed definitions of budget categories for the Construction Activities, along the same line.

The Corps of Engineers already has a cost system in effect, which if modified to some extent and integrated with the fiscal accounting for military construction funds will provide the basis for an effective cost control system. The Corps has recently

installed a system of programming, accounting and reporting for the Civil Activities, which incorporated the basic principles and concepts recommended in this report. These same procedures can be extended to the Military Activities.

All of the above efforts are good and in the right direction. However, much still remains to be done towards improving the public works construction procedures. Two basic requirements needed most now are the coordination and unification of the work of groups in different organizations and at various levels of operations.

Existing Deficiencies The financial procedures of the Services do not indicate an awareness of the changes and evolution of financial administration from what was primarily a record-keeping activity, relating basically to the accountability of funds, to the vital function of service to operators and management. The following are some of the specific weaknesses in the present systems:

1. The requests for both authorizations and appropriations have not shown a complete picture of what is going on and what is proposed for the construction program, either for the total or for individual stations. Requests have generally represented a list of facilities, with justification for their need, which the Services submit for authorizations and appropriations. The requests have not been related to the going construction program, or what might follow in the future.

2. Even though the Services request authorizations and appropriations for the construction of a list of facilities under a continuing program, and the appropriations which are made annually are credited to a continuing appropriation, the accounting is done according to public laws appropriating the funds, and in some cases the accounts are further segregated according to the public laws authorizing the construction. Due to incremental authorizations, for the same projects from year to year, and to the fact that appropriations for certain facilities are spread over more than one year, accounts for the same facility appear under several groups of accounts segregated by public laws. The basic accounts are not established to reflect what is being done as a continuing program (that is, the constructing of facilities) but are set up according to the laws which appropriated the funds to carry on the program.

3. As a result of the accounting and reporting for the construction activities by appropriation laws, and in some cases by authorizing laws also, numerous allotment accounts have been established from the same appropriation for one station, and in many cases several for a single facility.

4. In an effort to obtain cost information on the items as listed in authorization acts - sometimes referred to as "line items" - the number of allotments are further increased. Since the allotment accounts are based on procurement and contracting (contracts awarded, and goods and services ordered) instead of contractors' earnings and goods and services used, the information from such records is not of much value in measuring performance or in determining unit cost. Furthermore, under the allotment accounting procedures, all obligations and expenditures of necessity must be charged to some project or feature as each transaction occurs, even though it may represent some deferred charge, the acquisition of construction equipment, or the buying of supplies for the storehouse. Such a practice further negates the use of the allotment accounts as a means of measuring performance, or for a true accounting for the ultimate use of resources. Even through the extensive use of the allotment accounts, no appreciable benefits have been derived by their use.

5. The cost accounting approach has not been utilized to the extent as is desirable and necessary for military construction activities. Where used, as in the case of the Military Activities of the Corps of Engineers, the cost accounts are not coordinated with the budget processes.

6. The reports prepared on the construction activities are primarily limited to reports on obligations and disbursements by allotments, segregated according to public laws appropriating the funds. Other reports are generally confined to status of contracts, and the object class analysis. Public laws granting appropriations are the means whereby the Services receive funds to carry on the construction program. To accomplish this task, it is necessary to contract for work to be done, and to buy things. However, in the final analysis, Congress does not appropriate funds just to pay contractors and to buy things -- it appropriates funds to construct facilities which have been authorized. Both the accounting and reporting systems place more emphasis on the means and methods of

carrying on the program, than what is being done. As a result, there is no systematic method of reporting which follows the progress of the construction program through from authorizations to completion.

7. Due to the absence of a common understanding as to what items and components make up major facilities, there has been a lack of consistency between estimating, budgeting, and the accounting; and between the different services.

RECOMMENDATIONS AND CONCLUSION

Recommendations The following major proposals and recommendations are made with a view towards strengthening the Department's procedures for the planning and executing of the construction activities both from the standpoint of facilitating the processes and providing more useful information for managerial purposes.

1. The military public works programs for both authorizations and appropriations should stem from the master plans for each station. The program submitted for review and approval should show a complete picture of the status of the program; that is, what facilities are authorized, what are being constructed, and the facilities proposed for construction.

2. The military public works construction program should be considered as a "moving program" by bringing forward all uncompleted authorizations as well as the construction work in progress, and by adding to the same program the proposed work. The establishment of separate programs by public laws authorizing the programs and appropriating the funds should be discontinued.

3. All known requirements for the military construction program should be planned for at least two or three years ahead, and authorizations and their construction should be obtained as soon as possible after the requirements are known. Requirements which cannot be scheduled in advance should be synchronized with the longer-range program as the total program is reviewed from year to year. Such advanced planning and scheduling should be done in order to facilitate the accomplishment of the construction activities. The purpose of advanced planning and the obtaining of authorizations is not to increase the

expenditures for military public works, but to obtain the best facilities for the Government at the least possible cost.

4. Even though the Committee recommends the obtaining of authorizations for construction up to two or three years ahead and that the construction activities be considered as a "moving program", there should be provisions for an annual review of the total program by the Congress, the Bureau of the Budget, and the top management in the Department of Defense. By such an annual review, the program can be adjusted and approval obtained for the latest plans.

5. The control points for the military public works program should be the stations. A program of work should be developed for each station which is in accordance with the master plan. The program should show under major categories of construction the identified structures, facilities and features included in the program. Each station program should show a complete picture of what is going on in the way of construction and what is proposed. Authorizations should be justified for each station as a whole, based on a work program.

6. Allotments should be made in total for a station. The amounts allotted should be based on the approved work program for the station, after taking into consideration the funds and resources brought forward from the prior year. The allotment from the appropriation should be continuing from year to year. The establishment of separate allotment accounts for each year's appropriation should be discontinued.

7. The accounting records should be maintained on an accrual basis. Expenditures should be recorded on the basis of contractor's earnings, and the receipts of goods and services; that is, when the liabilities are incurred, (obligations representing reservations for future expenditures should not be considered as an accrued liability).

8. A set of forms should be developed for programming, scheduling, and the reporting of status of the construction program for each station. These forms should be developed to show the total program as well as the current year's program. These basic documentary forms should be utilized in requesting authorizations, presenting budgets for appropriations, and reporting. The forms should list the specific features

included in the program with estimates of cost for each item. The cost program should be reconciled with fund requirements, by taking into consideration any undistributed expenditures, any available assets, the unliquidated obligations and the unobligated balance of funds at the end of each year.

9. Uniform terminology represented by a common denominator classification of work should be used consistently throughout planning and programming, budgeting, accounting, and progress reporting. The classification should be based upon the types of facilities and structures involved, the components thereof, as well as the elements of costs.

10. Cost accounting systems should be established as a basis for construction cost control. All estimating and programming should be based upon the work to be accomplished and what the work will cost; that is the value of goods and services to be used. The system of cost accounting should provide a basis for comparing actual costs with estimates.

11. Depreciation accounting should be applied to Government-owned construction facilities and equipment, in order to equalize the charges for the cost of the facilities and equipment to the construction facilities benefited.

12. A complete balancing group of accounts embodying the double entry system should be established for each district office. The one integrated system should bring together the cost accounts, the allotment accounts, and the related property and liability accounts for the construction activities at a district office.

13. A study should be made of the necessity of extending the use of industrial funds, or establishing some type of revolving fund, for the construction activities to finance the cost and operations of certain construction facilities and equipment, as well as the financing of service and storehouse activities which serve more than one station. The extent to which such "funds" should be utilized, will depend upon the interchangeability and transfers of materials and equipment between stations, and the use to be made of common service activities for different stations.

14. A system of reporting should be developed for the needs of top management and every level of operation. The pyramidal approach

in reporting is recommended whereby the necessarily detailed reporting can be made at lower levels in the organization and the information can be summarized as it channels through each higher echelon. Cost and fund data should be furnished for the current year's program, as well as the cumulative total for all authorizations and construction in progress. These reports should provide a means for evaluating the progress of work against estimates and schedules. The basic reports should present forecasts of the probable fiscal year costs, as well as the probable total cost for the completion of the facilities. In other words, the type of reporting recommended is a management type of report embodying the principles of "management by exception".

Conclusion The improvements of the procedures of the Department of Defense, and the systems of budgeting and accounting in the Services have so many facets that an extended period of time will be required to make the changes effective. This makes it all the more important that some of the proposed changes be instituted at the earliest possible time. Certain advantages will be derived by the adoption of different proposals without awaiting the development and installation of complete systems. It is the opinion of the Committee that if the proposals are adopted, and properly implemented, the Department of Defense will have programming, accounting, and reporting procedures, which will (1) enable the officials to justify and explain their construction program (2) give Congress and the Bureau of the Budget a sound basis for reviewing and approving the program, and (3) provide a working procedure under which officials responsible for carrying on the program can operate within effective controls.

PART II

PROPOSED PROCEDURES FOR THE MILITARY CONSTRUCTION PROGRAM

INTRODUCTION

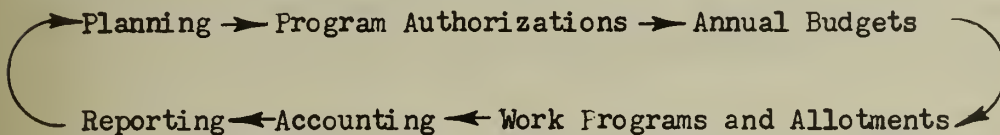
This part of the report outlines a system of procedures proposed by the Committee for the military public works program relating to planning, programming, budgeting, and accounting. The primary purpose of the system proposed herein is to outline a procedure whereby the budgeting and accounting for the military public works program can be coordinated with the planning and with the actual operations required in carrying on the construction program. The proposed system of budgeting and accounting is one that should meet the needs of management in accordance with acceptable standards of accounting and cost control for construction operations. The basic objectives of the proposed system is to provide:

1. A system that will be tailored to management needs at all levels and one that will be correlated with management responsibilities at different levels of organization.
2. A system that will provide for a greater degree of flexibility and which places the prime mission of construction foremost, enabling construction to proceed without interruptions due to detail and irrelevant financial requirements.
3. A system that will provide a comprehensive picture of the construction program relating to facilities authorized, those presently under consideration, proposed facilities, as well as a complete history of past performance, both as to financial and physical performance basis.
4. A system which will provide operating officials, contractors, and reviewing authorities with timely reports on past performance, and the phased estimated construction requirements on a three-year basis, with indications of current estimates to complete.
5. A system that can be expanded to all-out mobilization of a war-time construction program, or contracted to meet peace-time levels as the requirements of the Department of Defense change due to current conditions.
6. The system provides for all methods of construction, such as lump-sum contract, cost-plus-fixed-fee contract, construction by military or hired labor forces, construction by private companies with the Government furnishing in whole or in part the equipment and materials, or any combination of these types of methods of construction.

RESPONSIBILITIES AND COORDINATION OF THE MILITARY PUBLIC WORKS PROGRAM

Basic Steps The establishment and maintenance of a system of military public works planning, programming, budgeting, and accounting, involves the cooperation of responsible personnel in all echelons to assure the planning and execution of a program that is reasonable in details and coordinated as a whole as regards scope, time and cost. Exhibits A, B, and C in the appendix show the different organizational units within the Department of Defense which are interested in the several stages of public works, as well as the other interested agencies of the Government. Military, economic, engineering and other technical considerations play a very important part in working out the plans. The success of any coordinated system depends on the teamwork of all echelons concerned with building up and carrying out the program. Although different organizational units may have the responsibility for different phases of the construction program, all efforts and responsibilities should be unified.

The phases involved in planning and executing the military construction activities form a continuous cycle, as illustrated:



Estimating and Scheduling There are two important responsibilities which are interwoven and run through all the cycles of the programming, budgeting and reporting procedures; namely, estimating and scheduling. The importance of these functions are briefly touched on as follows:

Estimating Good cost estimating is the prerequisite to dependable programming and execution. The estimates should describe the work to be done, the units of measurements, the quantity and unit costs. Detailed estimates should break down the construction program for a station into identifiable components, and the elements of cost, for the facilities and features proposed for each station. The estimates for the various components should be assembled under a uniform cost classification. The estimates should be periodically brought up to date or revised whenever necessary, with a definite look to the total ultimate cost. The estimates should be followed through in all subsequent budgeting, accounting, and reporting of work performed and cost applied. In these subsequent phases, the currently approved estimates should be used in determining the physical and financial progress of the work.

The sequence of cost estimates revisions, together with accompanying justification for modification in scope, design, and cost, builds up a documental record of all changes in plans and estimated costs.

Scheduling This phase brings in the time element, and establishes both the planned chronological order of accomplishments as well as the time limits. The schedules should cover what is to be performed, when it will be accomplished, and at what costs. Scheduling should be done on both a long-range basis and a short-term basis. The construction program may be scheduled under broad categories for two or three years. With such a schedule top administrators can see at a glance just what work is planned, the priority of the work, the expected completion dates and other factors. After a program is approved and the funds are available to carry out the program, the on-the-job scheduling should be more frequent and in greater detail. Such scheduling should go into details as to the components and subfeatures being built, what major contracts are involved, the dates deliveries and earnings are to be made. The basic purposes of the scheduling are (1) to have the contractors, men, material and machinery on the job at the right time to keep the work going in order to accomplish the desired results with the least expenditure of funds, and (2) to schedule the completion of facilities and features according to a pattern whereby all completed features can be tied together and used as completed.

Relationship of Estimating to Accounting The techniques involved in estimating and scheduling are primarily those of the engineers and project supervisors rather than those of the accountants. However, the accountants can and should be instrumental in the estimating and scheduling processes since cost of prior periods and projects can be used in forecasting future estimates and fixing target dates. On the other hand the estimators should be familiar with the agency's cost system. The relationship of construction estimates to construction cost is so intimate that to make the program control system work they must be considered together.

COMMON DENOMINATOR FOR PROGRAMMING, BUDGETING, ACCOUNTING AND REPORTING

Budget Categories and Cost Classes One of the means of coordinating the different programming and financial phases of construction activity is a uniform classification of accounts, to be used in planning, estimating, budgeting, accounting and subsequent reporting. In a construction activity the pattern of the common denominator should be based upon the features being built such as housing facilities, utilities, storage facilities, hospitals and medical facilities, with further breakdowns as to the specific types of structures or buildings. The cost accounts

should be in whatever details as are necessary for local administration and for use of the agency in carrying out its program. The detailed cost accounts should be grouped or arranged according to a budget category -- the level at which information will be shown in the budget justification for each station. The following is a list of what the major categories might be:

Land and Land Improvements

Utilities

Housing and Community Facilities

Hospital and Medical Facilities

Supply and Service Facilities

Operational and Training Facilities

Industrial Facilities

Research, Development and Test Facilities

Harbor Facilities

Administration Facilities

Facilities for Multi-Purpose Use

There should be one basic classification with proper subdivisions, such as the above, for the Department of Defense. The main categories for such a classification on the construction program should indicate the general purpose or use to be made of the facilities. The Department of Defense requests authorizations and appropriations to build facilities to serve a purpose; therefore, the justifications should indicate the general functional use, and the public works program should be classified accordingly. Some facilities may be erected to serve more than one purpose. If basically for one purpose, the facility should be classified under the predominant use. If the use is fairly well divided among two or more functions, the facility may be classified as multipurpose.

The original intended use of some facilities may be changed after construction due to changes in the mission of the station or a change in the master plan of the station. The functional categories suggested above are basically for use during the planning and construction period. However, under each of the major functional categories there should be

further classifications according to the physical characteristics of each structure, facility, or building. This secondary classification constitutes the primary cost accounts and the same classes may be used in accounting for properties after construction. The following are illustrations of the cost classifications:

Housing and Community Facilities

a. Housing

- (1) Barracks and dormitories
- (2) Bachelor officers' quarters
- (3) Married officers' quarters
- (4) Married enlisted men's quarters
- Etc.

b. Welfare and recreational facilities

- (1) Chapels
- (2) Service clubs
- (3) Theaters
- (4) Gymnasiums
- Etc.

Utilities

a. Water Systems

- (1) Wells
- (2) Dams and Reservoirs
- (3) Storage Tanks
- (4) Pumping Facilities
- (5) Distribution System
- Etc.

b. Sewage and Waste Disposal Systems

- (1) Mains and Lines
- (2) Pumping Facilities
- (3) Treatment Plants
- Etc.

c. Electric Systems

- (1) Generating Plants
- (2) Transmission Lines
- (3) Distribution Lines
- Etc.

Operational and Training Facilities

a. Ground Training Facilities

- (1) Drill Halls
- (2) Instruction Buildings
- (3) Maneuver Areas
- (4) Special Training Structures

b. Aviation Training Facilities

- (1) Control Towers
- (2) Hangar, Docks,
Etc.

c. Waterfront Facilities Etc.

Supply and Service Facilities

a. Storehouses

- (1) General storehouses
- (2) Cold storage

b. Fuel Storage and Fuel Handling Facilities

- (1) Fuel storage and handling facilities
- (2) Fuel oil storage
- (3) Gasoline storage
Etc.

Elements of Cost Since on-the-job estimating and scheduling has to be done in terms of the elements of cost, (that is, the services and things used to build the facilities), it is necessary that the cost figures include all items of expenses, and that the cost accounts show such an analysis.

Operators in the districts and on the projects have to deal in terms of the work of contractors and men, the placing of materials, and the use of construction equipment. It is the problem of both the estimators and the accountants to analyze and convert the same elements of cost into terms of the facilities and features being constructed. A typical breakdown of these elements might be:

- (a) Contractor's work
- (b) Government furnished material
- (c) Force account labor
- (d) Use of construction facility and equipment
- (e) Other indirect costs

PLANNING AND PROGRAMMING MILITARY PUBLIC WORKS

General Effective plans for military public works, both from a current operating and a long-range basis, cannot be formulated without a complete picture of what has been done, what is being done, and what needs to be done. Military public works is a continuous process which starts with generalized studies and plans for a comprehensive and orderly development of a station or installation to the accomplishment of its mission under both peacetime and mobilization conditions. It ends with the completion of the work carried on by an allotment of funds for an approved construction program. The stages in the planning process become more definite, specific, and detailed as the program progresses.

The principle stages in the planning of the military public works are described below. If the planning for public works is followed through in correct sequence from a master plan to the ultimate detail for construction, a sound construction program can be developed, both from the standpoint of orderliness, and the ratings of priorities for construction.

Master Plan for Station Development The first basic step is the formation of a comprehensive or master plan for the development of a station or installation, after considering its mission under both peacetime and mobilization conditions. Such a plan shows the existing and proposed facilities and features of a station in graphic, tabular, or narrative form. It shows the desirable and reserved locations for the different facilities. A master plan is not a fixed and static document, but is subject to review and revision from time to time as required by changing conditions as a result of any changes in the mission of the station. The master plan is not a construction plan or program. It need not be converted to fund requirements or scheduled as to the time for completion of the various parts. The plan does, however, provide a background for the development of a continuing construction program. The public works construction programs should stem from the master plan. Some of the compelling advantages of master planning for a station or installation are that it provides:

- (1) Uniformity of development plans.
- (2) Sound and continuing planning procedures.

- (3) Efficient use of existing facilities.
- (4) Establishment of priorities within a plan.
- (5) Proper reservation of areas at a station for proper functional allocation - zoning map.
- (6) Means of avoiding costly mistakes and to effect economies in the public works program.

All of the above advantages will facilitate the justification for military public works authorizations and will provide a good foundation for budgetary preparation and justification in connection with appropriations for construction activities.

The master plan for a station should be comprehensive and should be the guide for all additions and improvements made at the station, regardless of whether the costs are financed for a construction appropriation, a maintenance and operation appropriation, or a procurement and production appropriation.

In those instances where the facilities are not located on a station, such as the training facilities for the reserve forces, the tactical antiaircraft facilities, and the air control and warning facilities, the master plans should be by geographical areas conforming to commands or other areas of responsibility. The planning and control of these construction activities should follow the same pattern by areas.

Construction Program Authorizations The second basic step in construction is the process of determining the necessity for the construction facilities, the establishment of priorities within the master plan, and the logical order of the construction of the different features. The list of the facilities which are known to be needed within the near future, should be compiled and arranged in some order of preference. The distinction between the necessary and the desirable should be the deciding factor in fixing priorities. Such a list becomes the basis for request and justifications of Military Public Works Authorizations.

While the planning and programming procedures is a continuing process, the contemplated public works programming growing out of it covers at any time only a specific limited number of years. The planning for civil public works for the Federal Government extends through the budget year and five additional years. This is probably too long

a period to attempt to adopt for the military public works. Future conditions are not as predictable in the military public works as in the civil public works. It would be undesirable to attempt to look too far ahead. Construction authorizations covering too long a period, or for an indefinite time, are likely to become vague and unrealistic and changes resulting from annual review may become so great that the program becomes cumbersome and ineffective. On the other hand, the adoption of too short a period between the authorization for the public works and the construction of the facilities, eliminates the advantages to be gained by advanced planning and programming. The objective in looking ahead and programming public works is not to increase the expenditures therefor, but to obtain more value for the dollar to be spent by proper timing, scheduling, planning, and in the preparation of designs and specifications. It is the opinion of the Committee that the definitely known requirements should be programmed for authorizations two or three years ahead.

In presenting justifications to the Congress for military public works authorizations, a complete picture should be given of the total authorizations outstanding, authorizations on which work has not been started, and the public works authorized under construction, as well as the proposed authorizations. The document should show by major types of facilities the proposed program for construction which is required within the foreseeable future and which is in accordance with the master plan. The form should show for each station the features previously authorized and the additional features required, together with the estimated cost of each major facility or feature. From year to year, as the program continues, it should be reviewed. Any new features required should be included on the document, while features no longer appearing to be justified should be deleted. The system proposed by the Committee contemplates that authorizations will be in total for a station or location, and that the last approved request will bring forward all outstanding authorizations (revised where necessary) and will make them a part of the current and continuing construction program. Exhibit E included in the appendix illustrates the kind of document which may be used to request authorizations for public works.) After the authorizations are granted by Congress the approved categories listed on the forms should become the official military public works program. The official program should exclude the time factor. Once the public works for a station is authorized, the

estimates and schedules are subject to annual review to reflect any changes in scope, price changes, and priorities. The appropriation made from year to year to finance the military public works programs should grow out of the authorizations.

Annual Budget Presentations and Appropriations The budget presented to the Bureau of the Budget and to the Congress should show a complete picture of what is going on, and what is proposed. The budget should stem from the master plans for stations and the authorizations for public works. The military public works program should be considered as a continuing process. It should bring forward all outstanding authorizations, the construction work in process, as well as any related resources such as funds (obligated and unobligated), material, construction equipment, and other prepaid and deferred expenditures which are to be used on the construction program.

A documentary form should be used to present the budget program. The form should include cost account data, time factors, target dates, total funds and appropriation requirements. It should be presented according to a uniform cost classification for the major types of structures or facilities. The document should show for each major facility:

- (a) Total estimate of the amount authorized.
- (b) Amount previously appropriated.
- (c) Additional appropriations required to complete.
- (d) Amount of this appropriation request.
- (e) Total cost of work in process at end of last fiscal year and work completed during the year.
- (f) Estimated cost of construction.
 - (1) The fiscal year in progress.
 - (2) The budgeted year.
 - (3) Two additional years scheduled.
 - (4) Residual balance to complete, if any.
- (g) Estimated completion date for each major facility.

The budget program and schedule of work should show the facilities, projects, and features to be constructed, and what they will cost (accrued earnings of contractors, and materials and services used.)

The total cost should be converted to total expenditures by taking into consideration the amount of undistributed expenditures and other available resources at the beginning and end of each fiscal year.

Total expenditures, in turn should be converted into obligations incurred by the application of unliquidated obligations. After giving effect to any unobligated balances at the end of each year, the required appropriations should be shown for each of the projected years.

The budget year column of this form should become the authorized program for the military public works. By an annual revision there is available to all a scheduled plan for three years ahead, -- a three-year "moving schedule". Public works facilities are financed from year to year as a result of action growing out of the annual budget, but the program is continually moving forward in a definite progression by the device of adding the work proposed for a new year and dropping from the program the items completed. (Included in the appendix as Exhibit F is a form proposed as a document for request for appropriations.

The proposed procedures are based on the assumption that the items listed on the request for appropriations will represent the construction work program and estimated cost and that funds will be appropriated for the station in total and on a continuing basis. It also is assumed that certain administrative provisions for transfers between stations would be permitted, subject to reports being made to Congress of the transfers at the next budget presentation.

Work Program and Related Allotment Procedures The approved program for public works should be based on the appropriation by Congress. Since the budget hearings are held several months before the beginning of the budget year, and a part of the current year's program is estimated, it will be necessary to adjust the work program as of July 1, of each fiscal year. Such adjusted program should take into consideration any changes made by the Bureau of the Budget and the Congress, and further adjusted to the actual prior year's cost and available resources brought forward. The rescheduling and programming should also take into consideration any revisions in the estimates which are known at the beginning of the year.

The same form used in requesting the appropriations should be used as the "Official Working Budget", and supported, where necessary, with detailed control schedules, showing the components of the facilities, and the elements of cost.

The revised form should be used as a basis for making allotments and apportionments. Both allotments and apportionments should be made in total for a station, for the year's program, and the amounts should be cumulative, bringing forward all prior funds.

The approved programs for the year should be forwarded to the responsible district offices as soon as possible. This will permit another advantage of programming in that it will allow time for advanced planning by the persons responsible for doing the work, lengthens the time available for proper technical design and the drawing of specifications, and permits better scheduling for both the construction engineers and the contractors. If this is done planned facilities do not have to be designed from scratch at the last minute before the work can get under way.

ACCOUNTING

General A sound financial control over military public works expenditures must be based upon a good system of accounts. The system should be coordinated with the planning and budgeting system and should bring together the accounting for allotments, the construction cost accounts, the property accounting and other related asset and liability accounts for which the construction organization is responsible. The accounting system should be one that meets the needs of management at all echelons, the requirements of law, and should be in line with the standards of the accounting and engineering professions for construction accounting and construction cost control.

In order that the accounting phase of the work can be coordinated with the other phases of the construction cost control, and that reliable and timely reports can be prepared, certain basic principles should be followed. The following basic principles and policies are recommended:

1. The accounting records should be maintained on an accrual basis, i.e., the expenditures should be entered in the accounts upon the basis of receipt of materials and services rather than upon the basis of payments.
2. A uniform classification of cost accounts should be provided for estimating, budgeting, scheduling, accounting and subsequent reporting.
3. A system of allotment accounts to control funds on an obligation basis should be established. The purpose of the allotment accounts should be limited to the distribution of funds for different stations in order to control obligations and, therefore, prevent the incurring of deficiencies. One allotment account under an appropriation for each station should be sufficient. In order to avoid any duplication of work between the allotment accounts and the cost accounts, no attempt should be made to analyse the transactions in the allotment accounts by types of facilities being constructed.
4. A work order system should be made a part of the construction cost control procedures. Such a system should provide that no construction work be initiated until proper authorization is transmitted to the person who is to do the work. The work order should be quite specific as to what work is to be done, who is responsible for the work, when and how it is to be performed, and authorize the necessary cost. The work order should be issued within the approved program.

Accounts should be established for the work orders which will constitute a subsidiary ledger to a general ledger account for construction work in progress.

5. The accounting system should provide for recording all cost, including depreciation on construction facilities and equipment, overhead and the proper distribution thereof, and the value of all goods and services transferred without reimbursement for the use of the construction program.

6. Each station should be made a focal point of cost control for the public works program, since the authorization and appropriation justifications are proposed to be on that basis. The district office should maintain for each station one allotment account, and a series of cost accounts (work order ledgers) for the construction work in progress. The accounts would reflect both the applied cost and the unapplied cost (undistributed expenditures).

7. The classification of disbursements by programs, projects and cost accounts should be discontinued. The proposed system provides for classifying basic transactions according to the cost and general ledger accounts, with emphasis on the accrual and cost basis. The classification of disbursement vouchers should be limited to the appropriation and the office accountable for the allotment.

8. The system should provide a method to accumulate the cost of facilities or structures being constructed, and for the subsequent transfer of accountability to station commanders when completed.

General and Subsidiary Ledger Accounts Each district office should maintain a double entry set of accounting records; within the general ledger. Controls should be provided for subsidiary records, such as the allotment accounts and the cost accounts (work order ledgers). The integration and correlation of the cost accounting system and the allotment accounts is very important. The following control accounts, which are suggested, will illustrate how the basic accounts may be developed under one system.

Assets and Operating Cost Accounts

1. Appropriations and Funds Available for Disbursement.
2. Accounts Receivable (Repayable to Appropriations).
3. Stores - General
4. Construction Equipment and Facilities - General

- 4.1 Plant, Property and Equipment
- 4.2 Allowances for Depreciation (Cr)

5. Construction Work in Progress:

5.1 Cost-Distributed Expenditures

5.2 Deferred Cost - Undistributed Expenditures

6. Expenses - (Non-Capital Expenditures)

Liability and Investment Accounts

7. Accounts Payable

8. Cost and Property Transferred to and from Stations (Current Year).

9. Allotments:

9.1 Unobligated Allotments

9.2 Unliquidated Obligations

9.3 Expended Allotments (Current Year)

10. Investment (For Operation and Control)

A brief explanation of each of the general ledger accounts is given as follows:

1. Appropriations and Funds Available for Disbursement

This account should be used to reflect the funds which are available to the district offices for disbursement. The amount should be represented by the total unexpended allotments and the accounts payable adjusted for any receivables. One account should be kept for each appropriation.

2. Accounts Receivable (Repayable to Appropriations).

This account should be used to reflect the amount of receivables which, when collected, will be deposited to the credit of the military construction appropriation.

3. Stores - General

This account should be used to reflect the value of construction materials and supplies not assigned to any particular station or project, and which are available for use throughout the district.

4. Construction Equipment and Facilities - General

4.1 Plant, Property and Equipment - Cost

4.2 Allowance for Depreciation - (Cr.)

These accounts should reflect the cost and accumulated depreciation of any construction equipment and facilities which are for general use through the district and which may be used by more than one station, and not belonging to any particular station.

5. Construction Work in Progress

5.1 Cost-Distributed Expenditures

5.2 Deferred Cost-Undistributed Expenditures

These accounts should control the work order ledgers (cost accounts) for the construction work in progress should be segregated as between distributed expenditures and undistributed expenditures. Many expenditures made for construction cannot be charged to a definite facility or feature as the materials and services are received. Therefore, accounts should be provided which will reflect the value of such undistributed and deferred charges for each station. Examples of such accounts are undepreciated equipment and tools, inventories at the station awaiting use, prepayments and advances, and clearing accounts.

6. Expenses (Non-Capital Expenditures)

This account should be used to reflect the amount of any expenses which are not to be charged to construction work in progress, and which are not to become a part of the cost of the completed facilities.

7. Accounts Payable

This account should be used to reflect the liabilities accruing against the construction program for goods and services received. The use of this account is essential in order to have the public works construction program on an accrual basis. It should include all outstanding liabilities such as vouchers payable, contract hold-backs, and any other accruals which will result in a subsequent expenditure of funds.

8. Cost of Property Transferred to and from Stations (Current Year)

This account should be used to reflect the value of any materials and services or property transferred without reimbursement to or from stations during the current year. By the use of this account all costs can be entered as a part of the construction program, even though it does not represent an expenditure or receipt of funds for the station.

9. Allotments

- 9.1 Unobligated Allotments
- 9.2 Unliquidated Obligations
- 9.3 Expended Allotments (Current Year)

These accounts should be used to reflect the status of funds for any particular station. One and only one allotment account should be maintained under an appropriation for each station. The allotment will reflect the total available funds, the amounts obligated, expended, and the resulting balances segregated as to the amounts obligated and unobligated.

10. Investment (For Operation and Control)

This account should represent the temporary investment in a district of the Government in the construction program and related facilities. The purpose of the account is primarily for operational control. At the end of each fiscal year the balances and accounts for Expenses - (Non-Capital Expenditures), Cost and Property Transferred to and from Stations and Expended Allotments should be closed to this account. At the time construction work is completed and turned over to the station commander this account should be debited with the total costs of the property completed and the account for Construction Work in Progress credited.

Cost Accounts The system proposed by the Committee contemplates that greater use will be made of cost accounting, and that less emphasis will be placed on obligation and disbursement accounting for operating purposes. The detail in which cost accounts (work order ledgers) should be established under the uniform classification should depend upon the type of construction work, whether done by force account or by contract, whether the contracts are for lump sum, cost-plus-fixed-fee, or whether by unit price contracts for certain types of construction work. The construction engineers and operational people should be consulted as to their need for cost data. An effective way to coordinate the cost accounting with operating requirements, is through a work order system, whereby a written authorization is prepared by a responsible official directing the performance of the work. Such an authorization should indicate the scope of the work, the estimates, and the information desired from the cost accounts. Because of the prominence of cost accounting in construction programming and control on the one hand, and because of the possibility of establishing cost accounts in too great a detail on the other, hand thereby defeating their own purpose, the following basic principles are recommended in determining the details in which cost accounts should be provided:

(a) Cost accounts should be established within specified budget classification in order that summaries may be obtained by such classifications.

(b) Cost accounts should identify the specific facility, feature, or component thereof, being constructed.

(c) Cost accounts should accumulate information for transferring the construction when completed to the appropriate property accounts.

(d) Cost accounts should provide the construction foreman with any desired information as to the various phases or types of works, such as information for determining unit costs, or the comparisons of actual cost with estimates for different sub-features of a facility.

The cost accounts for each type or phase of work should show an analysis of the elements of cost that are required to accomplish

the job. In line with the estimates the work order ledgers should show the amount of:

- (1) Contractor's work.
- (2) Government furnished materials.
- (3) Force account labor.
- (4) Use of Government facilities.
- (5) Overhead and other costs.

Even though provision is made for recording the various elements of cost, the emphasis of the cost accounting system should be on facilities and structures to be built. The recommended system provides for contract and object class accounting as secondary measures within the allotment accounting procedures. The accounting for the obligation and expenditure of monies for contracts is controlled through the allotment ledgers, and provision is included, by utilizing subsidiary contract data records in the allotment accounts, whereby reports on the status of the various contracts can easily be reported at such times as desired. However, the earnings under contracts should be accounted for as a part of the cost of the respective feature or features of work to which they apply. In other words, the primary emphasis is placed upon assembling and recording the cost of facilities or structures being built, rather than by the method of constructing them.

Relationship of Cost Accounts to Fund Accounts The military construction programs are financed by Congressional appropriations and accordingly it is necessary that any budgetary and fund control procedures conform with the laws and regulations concerning appropriated funds. The accounting procedures recommended in this report comply with such requirements, provide for budgets to be made on a cost basis, and prescribe the maintenance of the accounts on the accrual basis. The system also provides for methods of determining fund requirements based on obligations, and their control within available appropriations. The general ledger accounts recommended herein provide accounting information on the following bases -- all of which are necessary in both program and fund control:

1. Cost. Contractors' earnings, and goods and services used, without regard to when contracted, delivered or paid. This is the main step in controlling the program.

2. Accrued Expenditures. Goods and services received, without regard to when ordered, paid, or used. This is a vital step in accounting since it represents the incurring of liabilities to carry on the program.

3. Obligations. Contracts for construction awarded, and goods and services ordered without regard to when delivered, paid or used. This is a vital step in the procurement and contracting processes. The obligation basis permits compliance with apportionment procedures, and the control of obligations. This control is in total for each station.

The following statement shows how the accounts bridge the gap between the fund transactions (obligations and disbursements) and the cost records:

1. Program Cost - as reflected by the construction work in process account -
5.1 Cost Distributed Expenditures.

Plus or Minus

Changes in Balances of Inventory and Undistributed Expenditures
Account, 5.2 Deferred Cost-Undistributed Expenditures
(add ending balance; deduct beginning balance)

Equals

2. Accrued Expenditures as reflected by the account 9.3, Expended Allotments (Current Year)

Plus or Minus

Changes in unliquidated Obligations, as reflected in account 9.2 Unliquidated Obligations
(add ending balance; deduct beginning balance)

Equals

3. Obligations Incurred,
as reflected by the
allotment ledger.

Under the proposed system, both the accounts and the budgets will reflect the values of available resources (such as inventories, undepreciated tools and equipment) carried forward from year to year, -- an unknown factor in the present budget processes.

Under the proposed system there will be no necessity to classify disbursements by programs, projects, etc. Total cash transactions -- receipts or disbursements -- can be taken from the account 1, Appropriations and Funds Available for Disbursements. Total disbursements for any period can be reconciled with the accrued expenditures of the allotment accounts as follows:

1. Accrued Expenditures
as reflected by
account 9.3 Expended allotments (Current Year)
Plus or Minus
Changes in Accounts Payable

Add: Balance at End of Period

Deduct: Balance at Beginning of Period

Equals

2. Disbursements - Bills Paid

(Included as Exhibit H is a chart showing the inter-relationship of the accounts to budgets and reports.)

REPORTING

The phase reporting is one of the key features of construction cost control. With the present size of the construction activities on a world-wide basis, decentralization and the delegation of responsibility is essential. Under such conditions, effective control is impracticable without a procedure for reporting essential information from every part of the organization to headquarters in order that management action can be taken. Every level of management from the site of construction to the head of the agency to Congress must have available the necessary information to enable each to carry out its responsibilities. This does not mean that every action should be

reported to headquarters. If such were done, the headquarters would be completely choked. Reports prepared for top management should be complete, brief and to the point. At the same time, there must be available greater details at the site of operations.

If plans and programs are approved according to reasonable estimates, with target dates set up for completion, and the responsibility for constructing the specified facilities is delegated to the district offices, a system of reporting can be adopted which focuses attention on significant factors and variations between any approved programs or budgets and the accomplishments to date. Top management needs only to know that operations are proceeding according to plans, and if so headquarters need not be flooded with unnecessary details upon which no action is required.

The basic report should show a complete picture of the construction programs and projects, including the authorizations by Congress, the cost incurred (on an annual basis and totals by facilities), and comparisons with the estimated costs. Also the reports should show the balance of the work to be completed as originally estimated, and the probable future cost. The cost accounts should be reconciled at station levels with the available funds and future fund requirements, by taking into consideration unapplied costs, inventories on hand, and obligations outstanding in the form of contracts and orders. (An illustration of a Summary Cost and Progress Report for top management purposes is included in the appendix as Exhibit G.)

Local and other management control over work can be secured through work orders and subsequent internal reporting, which guarantees management that only work is undertaken which is part of the programs approved by the Services, the Secretary of Defense, and the Congress. This control can be effective through progress reporting, lining up costs with programs, item by item, to show how much work is accomplished, whether programs are behind or ahead of schedule, and equally important, the probable over and under runs of costs and whether available funds and other resources (such as supplies and materials) will cover the cost of the fiscal year's program.

BASIC SCHEDULES AND REPORTS

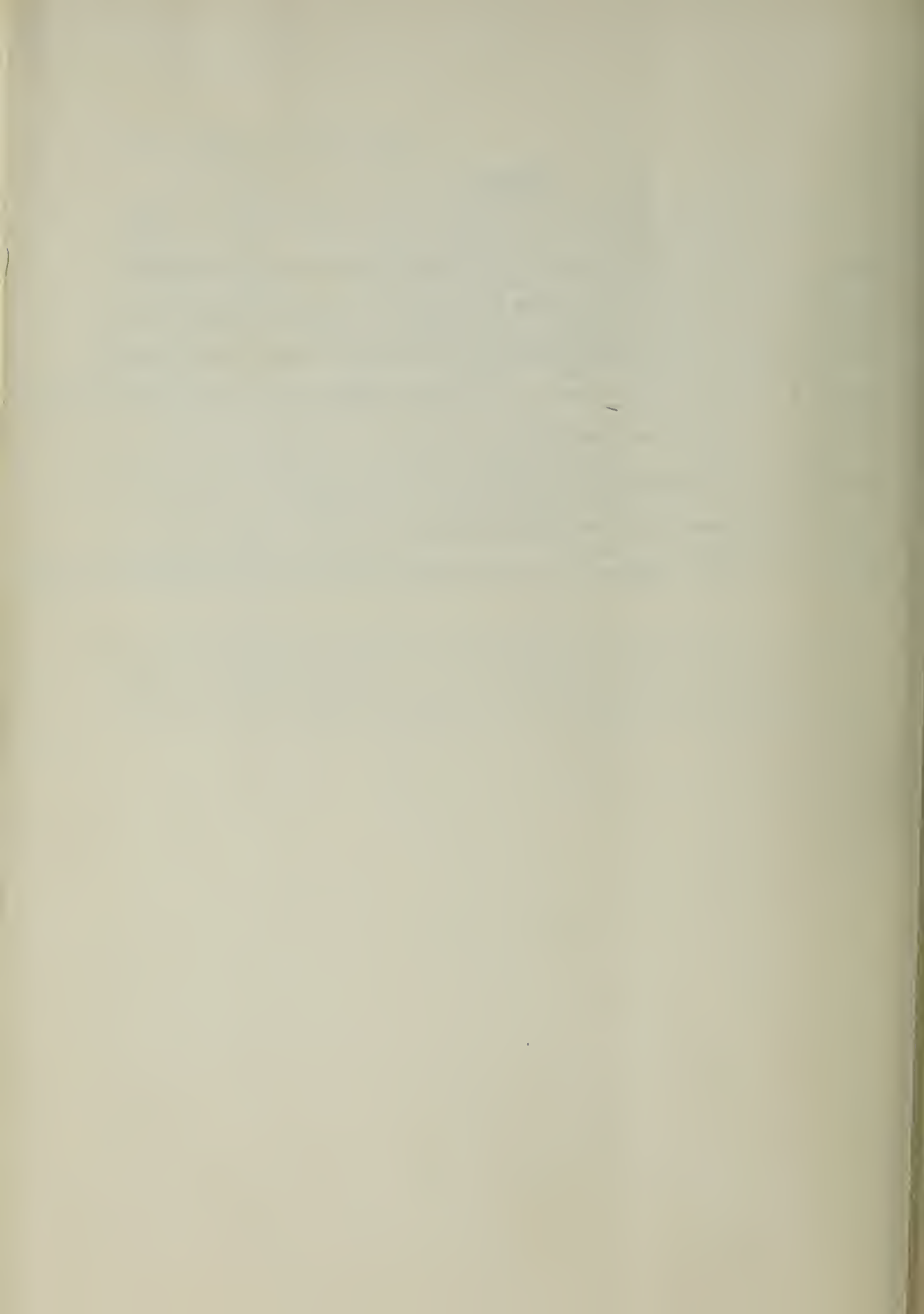
The basic control over the public works construction program should be maintained by a coordinated and unified system of schedules and reports. The scheduling of the construction program should be developed from the master plan of each station. The principle purposes of these schedules and reports is to map out the work to be done, and to be used as tools for performance. As indicated previously there are three basic control points in the programming and execution of the public works program; namely, the authorizations for public works, the appropriations, and the reporting of accomplishments under the program.

Three basis forms or documents (Exhibits E, F, and G) are suggested to be used for the public works program. The form of these reports should be the same for the three Services of the Department of Defense. The forms should present summaries by major facilities and categories of the construction program. They are suggested for top level management; that is, for the three Services, the Office of the Secretary of Defense, the Bureau of the Budget, and the Congress.

More detailed information may be necessary for local and administrative purposes, such as data on contracts, Government furnished material, inspection costs, and the keeping of cost accounts by components of a main feature. This detailed estimating, scheduling and reporting is to be made subsidiary to, and a part of the over-all plan.

APPENDIX

- EXHIBIT A -- Steps in Planning and Executing the Construction Program
- EXHIBIT B -- Military Construction Project Authorization Procedure--Army
- EXHIBIT C -- Military Construction Project Authorization Procedure--Navy
- EXHIBIT D -- Planning and Construction Cycles (Construction Program)--Air Force
- EXHIBIT E -- Request for Authorizations
- EXHIBIT F -- Request for Appropriations
- EXHIBIT G -- Summary Cost and Progress Report
- EXHIBIT H -- Chart showing Inter-relationship of Accounts to Budgets and Reports



STEPS IN PLANNING AND EXECUTING THE CONSTRUCTION PROGRAM

ALL STEPS ARE LINKED TOGETHER BY MEANS OF A COMMON CLASSIFICATION AND A SYSTEM OF ESTIMATING AND SCHEDULING.

MASTER PLAN



VICINITY DATA
MAPS OF AREA
MISSION AND FUNCTION
LIST OF EXISTING FACILITIES

AREA ALLOCATION PLAN
FUTURE DEVELOPMENT - CURRENT
FUTURE DEVELOPMENT - MOBILIZATION

MASTER PLAN
FOR STATION
DEVELOPMENT

CONSTRUCTION PROGRAM
STEMS FROM MASTER PLAN

CONSTRUCTION PROGRAM



EXISTING

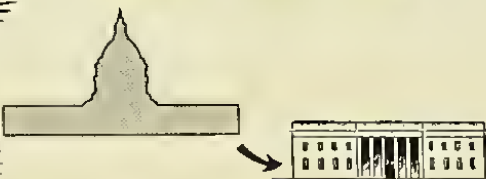
PROPOSED

PRIORITY LIST OF FACILITIES PROPOSED FOR AUTHORIZATION.
LIST OF PRIOR AUTHORIZATION OUTSTANDING (UNCOMPLETED).
MAPS SHOWING EXISTING AND PROPOSED FACILITIES.
NARRATIVE JUSTIFICATION.

REQUEST
FOR
AUTHORIZATION
EXHIBIT E

AUTHORIZED CONSTRUCTION FORMS THE
BASIS FOR ANNUAL APPROPRIATION

ANNUAL BUDGET PRESENTATION AND APPROPRIATION



B.O.B.

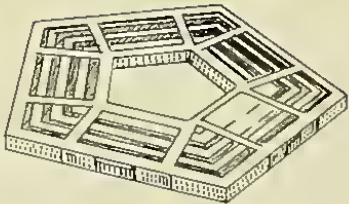
LAST APPROVED AUTHORIZATIONS.
SCHEDULE OF WORK BASED UPON PRIORITIES.
MAPS SHOWING STATUS OF THE CONSTRUCTION PROGRAM.
LATEST REVISED ESTIMATES.

REQUEST
FOR
APPROPRIATION
EXHIBIT F

+ NARRATIVE
JUSTIFICATION,
STATISTICAL
DATA, ETC. =
YEAR'S PLAN

OFFICIAL
BUDGET
ESTIMATE

WORK PROGRAM AND ALLOTMENTS



APPROPRIATION BY CONGRESS, ADJUSTED FOR ACTUAL.
RESOURCES BROUGHT FORWARD FROM PRIOR YEAR.
LATEST REVISED ESTIMATES AND SCHEDULES FOR
YEAR'S PLAN.
APPORTIONMENT BY BUREAU OF BUDGET.

APPROVED
REQUEST FOR
APPROPRIATION
CURRENT WORK-
ING PROGRAM
EXHIBIT F

BASIS
FOR

ALLOTMENT
IN
TOTAL
FOR
STATION

ACCOUNTING



ALLOTMENT LEDGER

FUND CONTROL FOR STATION -
SHOWS FUNDS AVAILABLE ON CURRENT BASIS

GENERAL LEDGER

ACCOUNTING CONTROL
FOR DISTRICT

COST ACCOUNTS WORK
ORDER LEDGER

PROGRAM CONTROL FOR STATION -
BY FACILITIES

REPORTING

STATUS OF ALLOTMENTS

STATUS OF CONSTRUCTION
AND SUPPLY CONTRACTS

SUMMARY FINANCIAL STATE-
MENT DISTRICT CONSTRUC-
TION PROGRAM

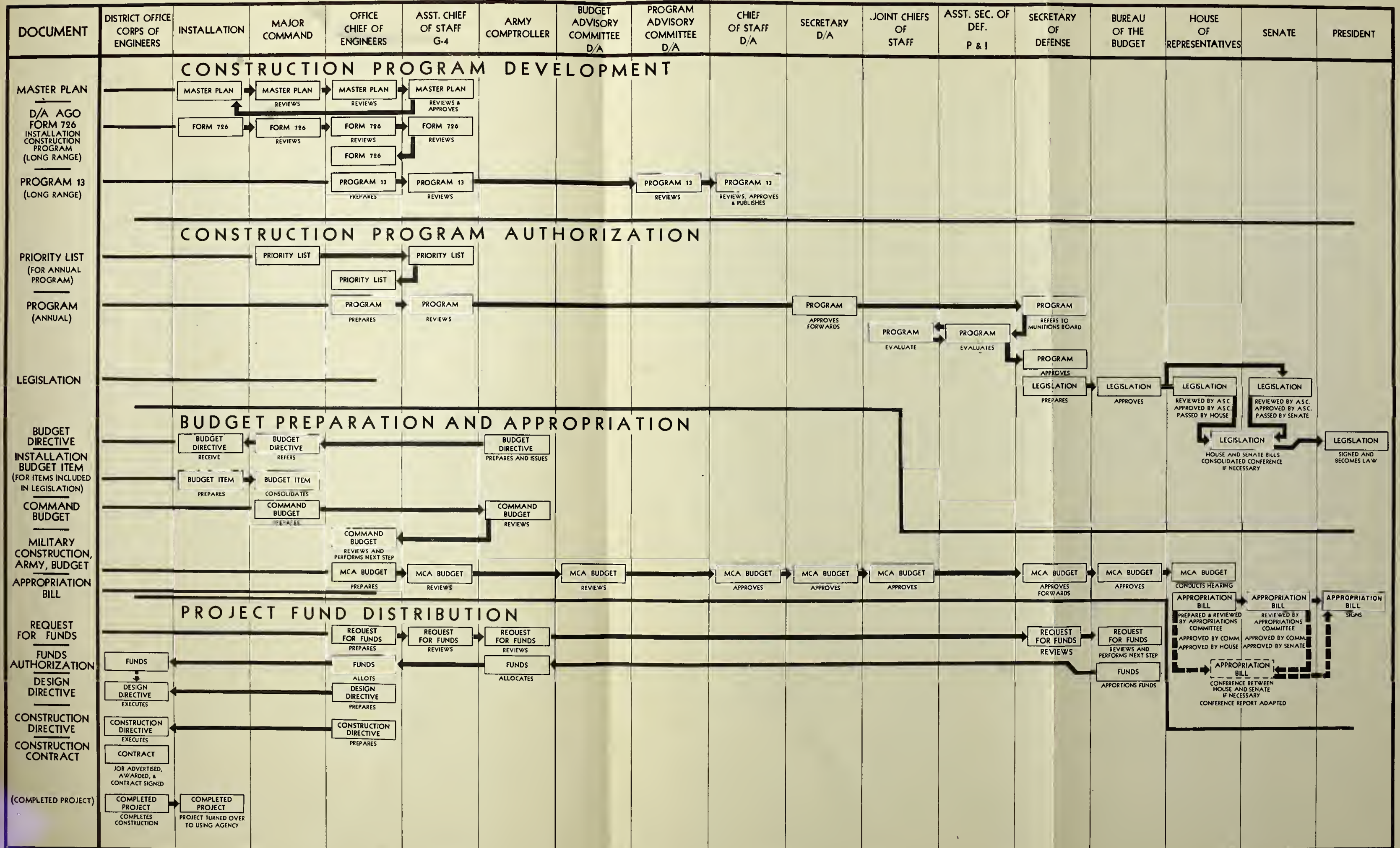
LATEST REVISED ESTIMATES
AND SCHEDULES

REPORTS OF RESULTS SHOW
DANGER POINTS AND INDICATE
CHANGES NECESSARY IN ESTI-
MATING AND SCHEDULING.

SUMMARY OF
WORK ORDER
LEDGER

SUMMARY COST
AND PROGRESS
REPORT FOR
STATION
EXHIBIT G

ЖИВЕТ В



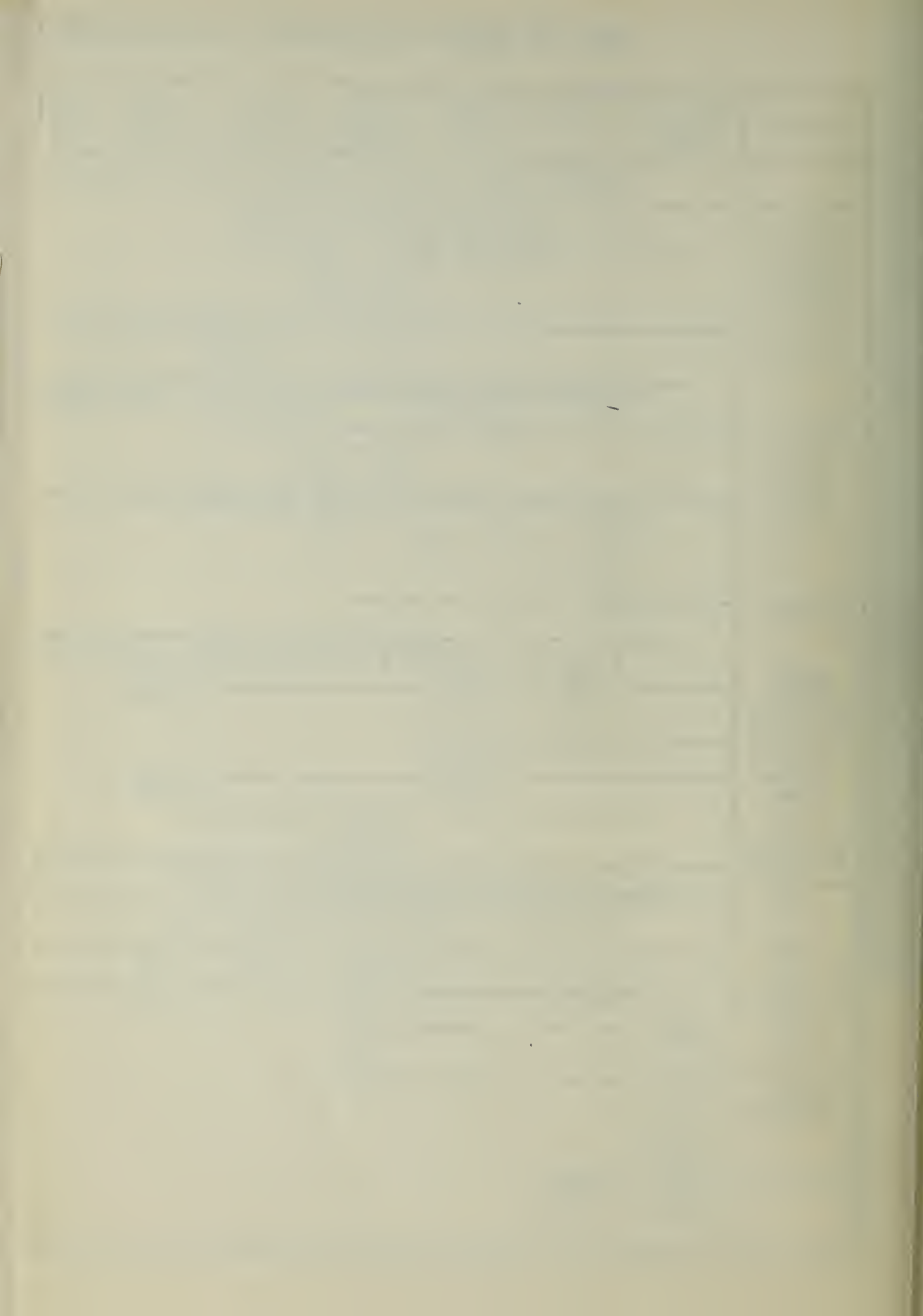
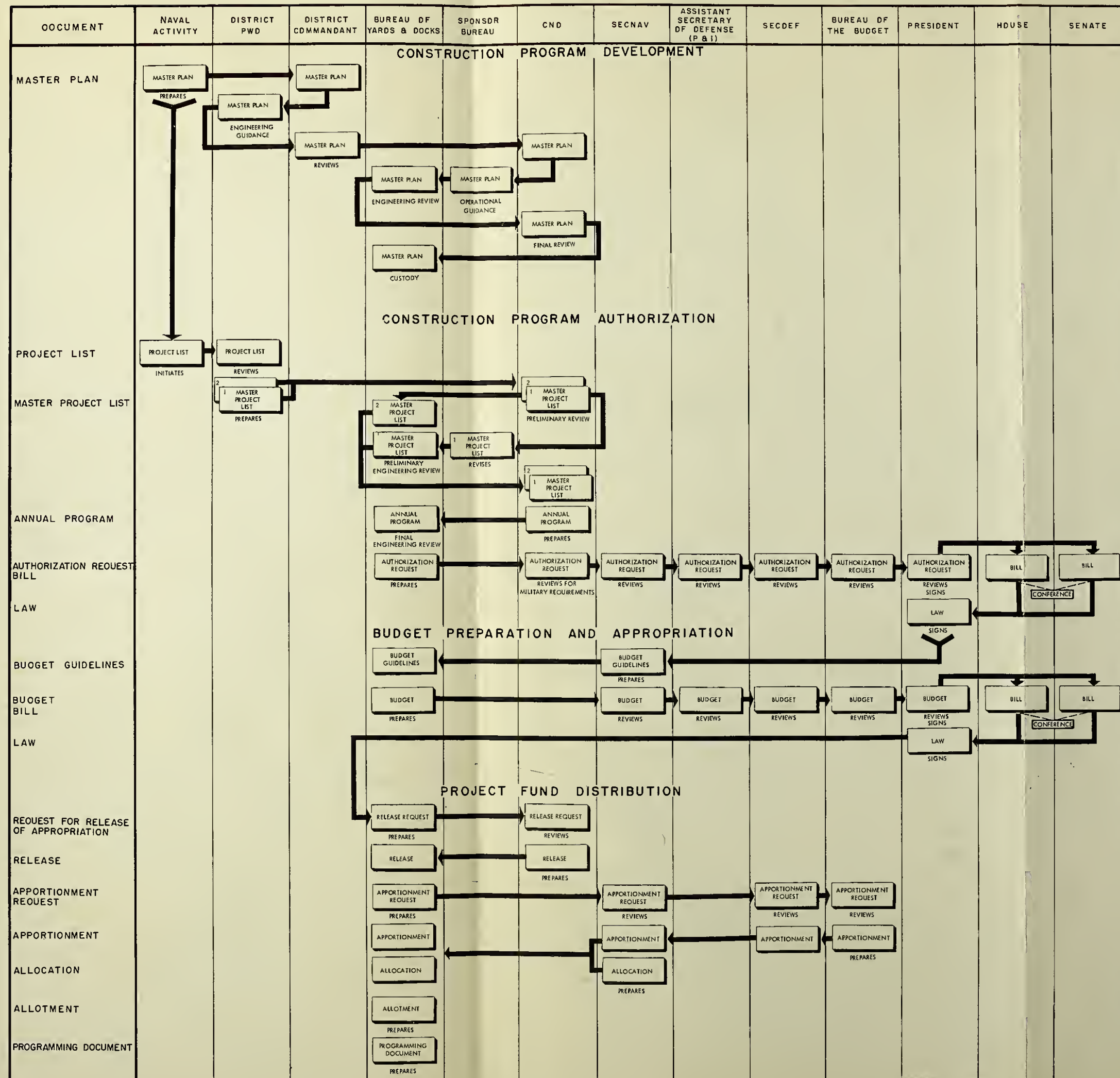
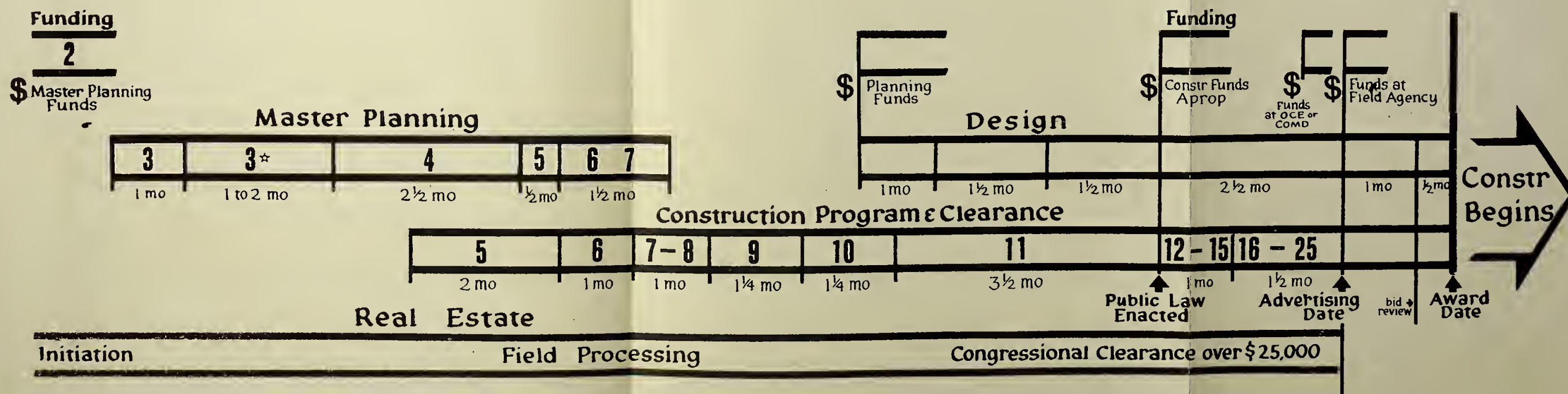


EXHIBIT C



Planning & Construction Cycles

											APPORTIONMENT				FUNDING PROCEDURE				CONSTRUCTION PROCEDURE					
											Procedure: ground rules from BOB-OSD				RULES: AF approval up to 10% over of instl total OSD approval for overrun of 20% of line item BOB approval for overrun of 10% of instl total				Construction by AF-OCE-Other(NAVY)					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
OPERATIONS	Hq USAF DIR/INSTL	COMMAND	INSTL	COMMAND	Hq USAF DIR/INSTL	Hq USAF INSTL BD	AIR FORCE COUNCIL	OSD	BOB	CONGRESS	Hq USAF DIR/INSTL	Hq USAF DCS/O	OSD	BOB	Hq USAF DIR/INSTL	Hq USAF DCS/C	OSD	BOB	CONGRESSIONAL COMMITTEES	Hq USAF DIR/INSTL	COMMANDS or OCE	OCE DIVISION	OCE DISTRICTS	INSTL
1. receives force tab 2. determines general area 3. Air Bases (a) select gites (prel nego) (b) determines base util (c) uses survey team REP: Comd Air Bases Instl	(AFDAF-P) 1. initiates planning actions to Comds 2. initiates funding actions for Comds	1. negotiate with AE for basic info folder (a) develop plans (b) master planning *processes thru AMC & OSAF for approval of contracts over \$25,000	1. assists AE in planning (a) constr requirements based on criteria	1. review & approval of develop & master plans 2. fwd to Hq USAF COMMAND B 1. prepares constr requirements for constr budget 2. fwd to Hq USAF	(AFDAF-P) 1. review & analysis (a) dev plans (b) master plans 2. fwd to working committee of Instl Board B (AFDAF-P) 1. review & coordinates requirements for Constr budget	(includes working committee of interest directorat) 1. review & approves develop & master plans FINAL ACTION INSTL BOARD B 1. review & approves constr budget 2. fwd to Air Force Council	1. review & approval of constr budget 2. fwd to OSD	1. reviews Constr budget	1. reviews Constr budget	1. for AUTH (a) HOUSE (b) SENATE 2. for APROP (a) HOUSE (b) SENATE	1. prepares Request 2. fwd to Air Force Comptroller 3. info should be based on latest costs from (a) master plans (b) siting (c) prelim dwgs	1. requests reviewed 2. prepares special form to OSD	1. requests reviewed 2. fwd to BOB	1. reviews request & approves	1. prepares constr AUTH request 2. fwd to Air Force Comptroller	1. reviews & approves request 2. sends out budget AUTH & Allocation to Constr agency on concurred items 3. fwd to OSD when necessary	1. review & approval of (a) overrun of 20% of line items (b) overrun of 10% of instl total (c) necessary reprogram (d) items beyond scope & emergency items	1. review & approval of instl (a) over 10% of instl total (b) on reprog (c) items beyond scope & emergency items (d) items for congression clearance	1. reviews for approval (a) Special items (b) emerg items	1. Send constr (or design) directive upon funding clearance 2. real estate clearance thru Congr is required on items over \$25,000	1. prepares processes directives 2. OCE fwd to division engineer	1. reviews & processes directive 2. fwd to district engineer	1. reviews & processes directive to resident engineer at Instl	CONSTR BEGINS





REQUEST FOR AUTHORIZATIONS -- MILITARY PUBLIC WORKS
FISCAL YEAR 19

EXHIBIT E

STATION CODE NO. _____
STATION _____
LOCATION _____
STATION MISSION _____

EXISTING LAND ACRES
GOVERNMENT OWNED _____
GOVERNMENT LEASED _____

STRENGTH
OFFICER ENLISTED CIVILIAN TOTAL
PRESENT
PLANNED

ESTIMATED TOTAL COST
AUTHORIZATION SUBSEQUENT TO
BALANCE REQUIRED TO COMPLETE
AMOUNT THIS REQUEST

COST CATEGORY CODE	ITEM DESCRIPTION	QUANTITATIVE REQUIREMENTS			UNIT OF MEASURE	UNIT COST	AUTHORIZATION REQUIREMENTS			PREVIOUS AUTHORIZATION PUBLIC LAW
		TOTAL	PREVIOUSLY AUTHORIZED	ADDITIONAL AUTHORIZATION REQUIRED			TOTAL	PREVIOUSLY AUTHORIZED	ADDITIONAL AUTHORIZATION REQUIRED	
200	<u>Utilities</u>									
211	Generating Plant - Electric									
214	Distribution Lines - Electric	50000								
261	Telephone System									
300	<u>Personnel and Community Facilities</u>									
311	Barracks and Dormitories									
312	BOQ's									
400	<u>Supply and Service Facilities</u>									
422	Magazines - High Explosives									
437	Jet Fuel Storage									
500	<u>Operational and Training Facilities</u>									
511	Administration Buildings	100000								
541	Operations Buildings & Control Towers									
542	Hangars									
546	Pavements, Airfield									
600	<u>Industrial Type Facilities</u>									
664	Overhaul and Repair Shop									
700	<u>Research, Test, and Scientific Facilities</u>									
723	Rocket and Missile Research and Test Facilities									
	<u>Total Authorizations</u>									

This form is to be used as a document for requesting authorizations for military public works at a station, or for an area. It shows by types of facilities the proposed program for construction which is required within the foreseeable future up to a maximum period of three years and which is in accordance with a master plan. The authorizations should not attempt to schedule the period of actual construction or target dates for completion, since such factors will depend upon subsequent appropriations. The form shows the uncompleted features previously authorized, and the additional authorizations required, together with the estimated cost for each major feature of construction. The system contemplates that authorization will be in total for a station, or area, as supported by a work program.

REQUEST FOR APPROPRIATION -- MILITARY PUBLIC WORKS

STATION CODE NO. _____
STATION _____
LOCATION _____
STATION MISSION _____

<u>EXISTING LAND</u>	<u>ACRES</u>
GOVERNMENT OWNED	_____
GOVERNMENT LEASED	_____

	STRENGTH			
	<u>OFFICER</u>	<u>ENLISTED</u>	<u>CIVILIAN</u>	<u>TOTAL</u>
PRESENT				
PLANNED				

ESTIMATED TOTAL COST	\$	_____
APPROPRIATION SUBSEQUENT TO	\$	_____
UNOBLOCATED BALANCE AT	\$	_____
APPROPRIATION REQUIRED TO COMPLETE	\$	_____
AMOUNT THIS REQUEST	\$	_____

[illegible]

Station Code No. -
Station -
Location -
Class of Facility -

SUMMARY COST AND PROGRESS REPORT -- MILITARY PUBLIC WORKS
PERIOD ENDING

COST CATEGORY CODE	ITEM DESCRIPTION	TOTAL PROGRAM					CURRENT FISCAL YEAR				
		ESTIMATED TOTAL COST	AMOUNT AUTHORIZED	AMOUNT APPROPRIATED	COST TO DATE	% COMPLETE	ORIGINAL FY ESTIMATE	COST		REVISED FY ESTIMATE	PROBABLE OVER OR UNDER-RUN
								THIS PERIOD	FISCAL YEAR TO DATE		
200	<u>Utilities</u> 211 Generating Plant - Electric 214 Distribution Lines - Electric 261 Telephones System										
300	<u>Personnel and Community Facilities</u> 311 Barracks and Dormitories 312 BOQ's										
400	<u>Supply and Service Facilities</u> 422 Magazine - High Explosives 437 Jet Fuel Storage										
500	<u>Operational and Training Facilities</u> 511 Administration Buildings 541 Operations Buildings & Control Towers 542 Hangars 546 Pavements, Airfield										
600	<u>Industrial Type Facilities</u> 664 Overhaul and Repair Shop										
700	<u>Research, Test, and Scientific Facilities</u> 723 Rocket and Missile Research and Test Facilities										
	<u>Total Cost - Distributed</u>										
900	<u>Undistributed Cost</u> 1/ 920 Design, Engineers and Surveys 941 Materials 950 Construction Plant and Equipment										
	<u>Total Expenditures</u>										
	<u>Unliquidated Obligations</u> 1/										
	<u>Total Obligations</u>										
	<u>Funds Available</u> <u>Unobligated Balance Carried Forward</u> <u>Allotment Available</u> <u>Unobligated Balance, End of Period</u>										

This report furnishes a basis for following the public works program from the time of the authorizations until the features are completed. The report reflects the status of all uncompleted construction authorizations (and those completed during any given fiscal year) and gives a comparison of estimates to schedules with accomplishments to date in terms of cost, percentages of completion, and probable over or under-runs. The items reported upon follow the same common classifications used on both the requests for authorizations and appropriations and the costs are reconciled in total to the available funds.

1/ The current fiscal year's program shows changes in these items during the year.

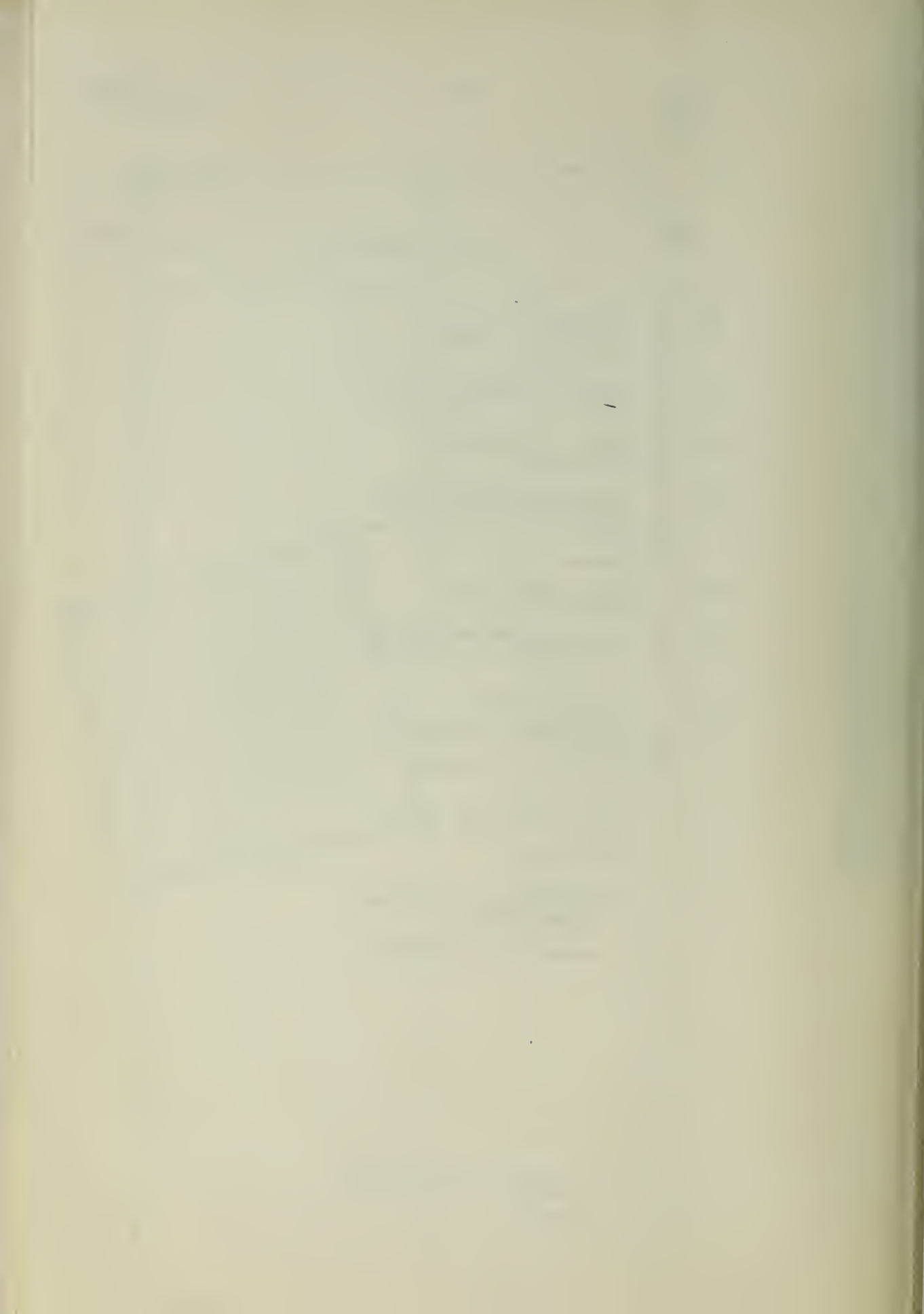
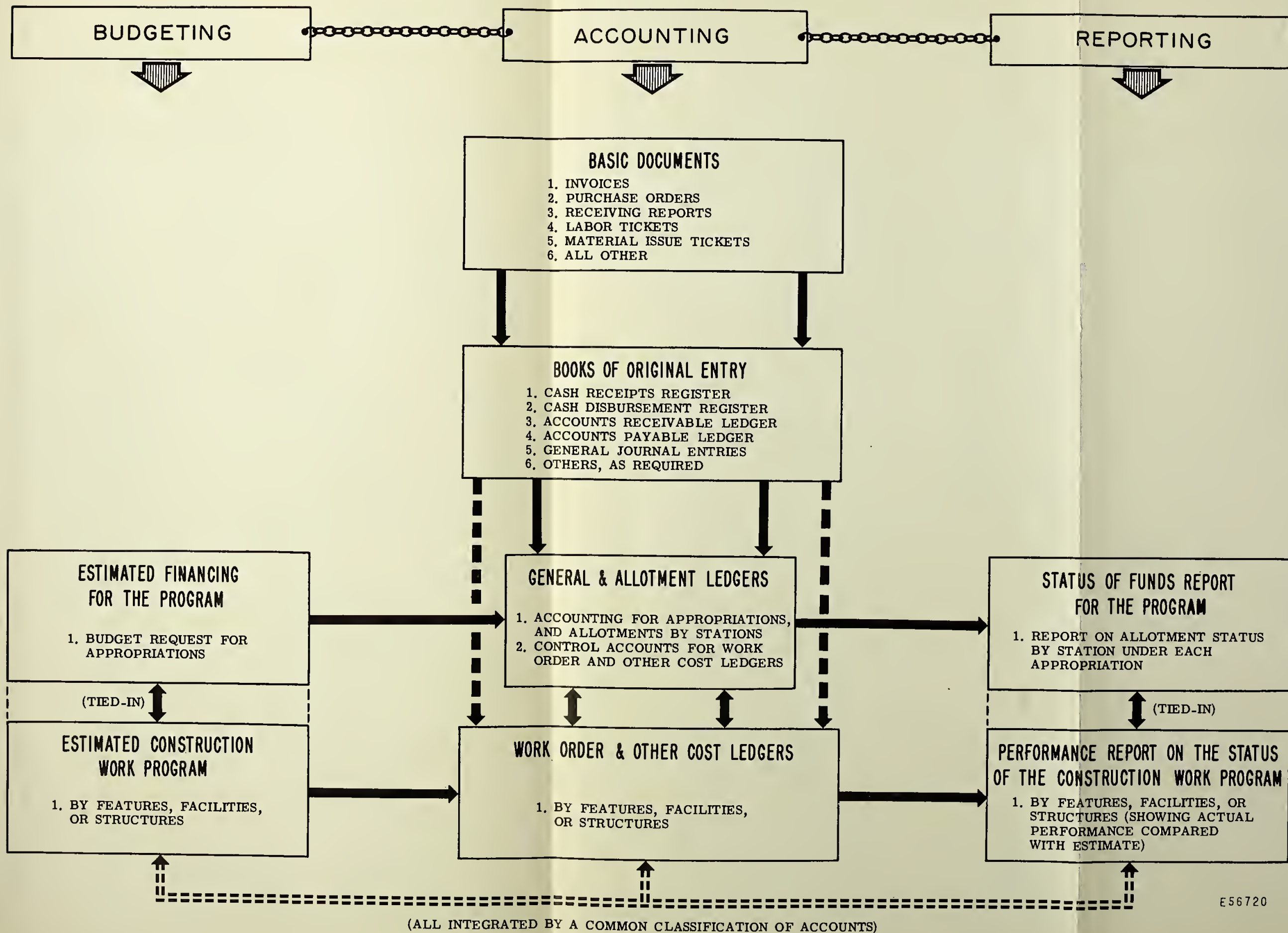


CHART SHOWING INTER-RELATIONSHIP OF ACCOUNTS WITH BUDGETS AND REPORTS



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THE SECRETARY OF DEFENSE
WASHINGTON

June 25, 1954

MEMORANDUM FOR: The Secretary of the Army
The Secretary of the Navy
The Secretary of the Air Force
The Assistant Secretary of Defense (Comptroller)
The Assistant Secretary of Defense
(Properties and Installations)

The Advisory Committee on Fiscal Organization and Procedures has submitted to me its report on the fiscal, budgetary and accounting aspects of the Military Public Works Program. A copy of the report is attached.

The Committee recommendations include a proposed system of programming, budgeting, accounting and reporting for military construction activities which represents a combination of portions of existing procedures, portions of procedures being developed and installed by various components of the Department of Defense and further procedures proposed by the Committee. The system has been designed to provide an effective, simplified and standardized system for the entire Department of Defense which will meet the needs of responsible officials in all components of the Government.

I understand that members of the Committee's staff have reviewed and discussed the proposed system with interested individuals in the Departments of the Army, the Navy and the Air Force and that they are in substantial agreement with the basic principles proposed.

In order that the benefits available through use of the proposed system may be obtained at the earliest possible date, I am approving the Committee's report on the Military Public Works Program prior to receipt of its final overall report and you are authorized to proceed at once with the development of the recommended system with the objectives of having it in operation in time for the development of the 1956 Public Works Program.

(signed) C. E. Wilson

SIGNATURE AUTHENTICATED BY:
/s/ Leslie R. Kyle
Leslie R. Kyle, 1st Lt., AGC
Correspondence Control Section
Office of the Administrative Secretary

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THE SECRETARY OF DEFENSE

Washington

September 22, 1954

MEMORANDUM FOR: The Secretary of the Army
The Secretary of the Navy
The Secretary of the Air Force
Assistant Secretary of Defense (Properties & Installations)
Assistant Secretary of Defense (Comptroller)

SUBJECT: Report on Military Construction Program by the Advisory Committee on Fiscal Organization and Procedures

Supplementing my memorandum to you of 25 June 1954, the Assistant Secretary of Defense (Properties & Installations) has been designated as a representative to be Chairman of a group composed of representatives of the Secretaries of the Military Departments and of the Assistant Secretary of Defense (Comptroller) together with such other persons as may be appropriate to deal with the recommendations contained in subject report.

This group will take up the work of the informal committee which, pursuant to my memorandum of 25 June 1954, has been developing a system along the lines recommended in the subject report. In the course of its work this new group will prepare for appropriate signature such directives or other memoranda as may be required to place the program in effect, and such implementing instructions as may be required will be issued at that time.

It will be the responsibility of the Secretary of each Military Department to see that the program developed by this group, after its approval by me, is completely effectuated.

The representation from your Department which has been active on the informal committee will be presumed to carry over to the new group unless otherwise indicated by you.

I am informed that the implementation of certain recommendations contained in the report of the Advisory Committee on Fiscal Organization and Procedures will require changes in the basic authorizing legislation and that the concurrence of certain Congressional Committees is

essential to the implementation of the plan even in principle. It will be the responsibility of the Assistant Secretary of Defense (Properties & Installations) and the Assistant Secretary of Defense (Comptroller) in their respective fields to secure the necessary clearances from the Congressional committees concerned, and to plan for the submission of the required legislation to make the entire approved program effective not later than the 1957 authorizing act.

The Assistant Secretary of Defense (Properties & Installations) will inform me from time to time of the status of the work of his coordinating group, and the Assistant Secretary of Defense (Comptroller) will report to me periodically concerning the progress being made in placing into effect the total approved program of the Advisory Committee on Fiscal Organization and Procedures.

Extra copies of the report on the Military Construction Program of the Advisory Committee on Fiscal Organization and Procedures are available upon request to the Assistant Secretary of Defense (Properties & Installations).

(Signed)

C. F. WILSON

SIGNATURE AUTHENTICATED BY:

/s/ J. S. Twitwell
for: Henry E. Lofdahl
Chief, Correspondence Control Section

March 11, 1955

MEMORANDUM FOR THE SECRETARY OF THE ARMY
THE SECRETARY OF THE NAVY
THE SECRETARY OF THE AIR FORCE

SUBJECT: Instructions for the Submission of the FY 1957 Military
Public Works Authorization Program

Instructions for the FY 1957 Military Public Works Authorization Program are forwarded as Inclosure 1.

The list of Facility Classes and Construction Categories referred to in subparagraph 1.c. of the Instructions is being established in a Department of Defense Instruction. This Instruction has been signed and will be forwarded to the military Departments upon publication.

Your attention is invited to the fact that submission of the program to the ASD(P&I) is requested not later than 1 September 1955. It is imperative that this date be met in order that adequate time be given for analysis, review and final formulation of the program by this office.

/S/ Franklin G. Floete

Inclosure

Instructions for FY 57
Military Public Works
Authorization Program.

1981 (21) 1981

THE UNIVERSITY OF THE SOUTH ALABAMA
LIBRARY
363 UNIVERSITY BLVD
MOBILE, AL 36688

LIBRARY: University of the South Alabama
1010 University Blvd
Mobile, AL 36688

Comments for the 1981-82 Library
and Services Survey

The list of facilities, services and programs
provided to the community is being
listed in a separate section. All
items listed are for the 1981-82
year.

The following is a list of the
programs in the library. It is
intended to be a guide for the
public. It is not intended to be
a list of all programs. It is
intended to be a guide for the
public.

University of Alabama

University of Alabama
1010 University Blvd
Mobile, AL 36688
Library

INSTRUCTIONS FOR THE SUBMISSION OF THE FISCAL YEAR
1957 MILITARY PUBLIC WORKS AUTHORIZATION PROGRAM

1. General: The FY 1957 Military Public Works Authorization Program will be the first program in a system recommended by the OSD Advisory Committee on Fiscal Organization and Procedures. This system requires that:

a. The facilities required to accomplish the planned ultimate peacetime development of each installation included in the program be illustrated by an Installation Site Plan.

b. The request for new projects include all requirements for which planning is sufficiently advanced to establish a firm basis. The total dollar authorization to be requested for new projects is not required to be limited to a pre-determined amount, nor to bear any specific relationship to the amount of appropriations to be requested for FY 1957.

c. Projects be listed by line item, the list be arranged by uniform facility classes and categories, and identified by a three-digit code number, in accordance with the applicable DOD Instruction.

2. Basis of Requirements: Projects in this program shall provide for:

a. Permanent facilities needed to support long-range peacetime force levels, and related military programs of each Department. Permanent facilities for those forces and programs shall be provided at Permanent Installations.

b. Facilities needed to support approved force levels, deployment, and related military programs for end FY 1957.

c. Replacement of existing facilities which are substandard with respect to health, safety, or living standards; or which are obsolete or inefficient for their required use. Facilities to replace such

... ..

existing facilities shall be limited to those for which there is a continuing peacetime requirement.

d. Facilities required for mobilization which are of such importance, and are of such long lead time to construct that authorization at this time is justified.

3. Installation Site Plans: An installation site plan shall be available for all installations which are included in this program. Attention is invited to the fact that availability of up-to-date site plans is an essential element of this program. Installation site plans shall conform to criteria provided in Tab 1.

4. Request for New Projects: The basis of requirements is defined in paragraph 2. It is an essential part of this program that total firm requirements be submitted. The determination of what projects are to be included in the submission shall be made by each military Department.

5. Cost Estimates: Estimates of costs of projects for which authorization is requested in FY 1957 shall reflect the total costs of providing a specific complete facility in a specific location. This cost shall include the structure or work, essential installed equipment, and other essential features such as driveways, walks and utility extensions. In cases where such items are excluded from the estimate, a statement shall be made as to the expected source of funds for completion of the facility. These estimates should originate at field level and be as accurate as practicable. Estimates of costs of that portion of the ultimate peacetime development for which authorization is not requested in this program shall indicate the approximate amount of future dollar authorization required. This figure should not be presented as a firm amount, but simply as a planning estimate subject to future revision,

6. Land Acquisition: The military Departments shall be prepared to make available evidence that will justify the area requested and the cost estimate submitted.
7. Commercial and Industrial Type Facilities: These facilities shall be included only if they meet the provisions of applicable DOD Directives.
8. Research and Development Facilities: These facilities shall be included only if they are required to support an R&D program approved by the ASD(R&D).
9. Medical Facilities: Requirements for medical facilities shall be based on the criteria contained in Tab 2.
10. Family Housing: Family housing shall be included on the basis of providing total firm requirements after allowing for all known or foreseeable sources of housing in the area.
11. Morale, Welfare, and Recreational Facilities: Space allowances, sizes, and quantities shall not exceed the criteria contained in DOD Instruction 1330.3. However, DOD Instruction 1330.3 shall not be interpreted as authorizing the request of any or all of the facilities described therein. The request for such facilities for a particular installation shall be justified solely on the basis of the specific need at that installation. The justification shall include information on the following factors:
 - a. Climatic conditions with particular reference to the number of months per year and the percentage of time during those months that the facilities would be useable.
 - b. The availability and accessibility of off-base facilities and opportunities for recreation.

c. Types and numbers of personnel to be served.

d. Unusual environmental factors deserving special consideration.

12. Reserve Forces Facilities: This program shall include only those facilities required to replace Reserve Component facilities being retained for use by the Regular Forces. This program shall not include projects to be funded under existing authorization contained in P. L. 783 (81st Congress) and similar legislation.

13. Standards and Criteria: Public works projects submitted as a part of this program shall conform to applicable DOD Directives and Instructions establishing uniform space allowances, and other criteria pertaining to military public works.

14. Submission: The FY 1957 Military Public Works Authorization Program shall be submitted to the ASD(P&I) not later than 1 September 1955.

1. The first part of the report is devoted to a general description of the project and its objectives. It also includes a brief review of the literature on the subject.

2. The second part of the report describes the methodology used in the study. This includes a detailed description of the experimental design, the subjects, the materials, and the procedures.

3. The third part of the report presents the results of the study. This includes a description of the data collected, the statistical analysis, and the conclusions drawn from the results.

4. The fourth part of the report discusses the implications of the findings and suggests directions for future research.

5. The final part of the report is a conclusion that summarizes the main findings and the overall contribution of the study.

CRITERIA FOR INSTALLATION SITE PLANS

1. General Information to be Provided: The site plan of an installation shall show the planned ultimate peacetime development of the installation. For this purpose, it shall incorporate information as follows:

a. Facilities, major structures, principal roads, and such other features as are necessary to illustrate functional arrangements, land and waterfront use, and principal traffic flow within the installation.

b. The boundaries of the existing installations.

c. Existing facilities, major structures, and principal roads planned to be retained. Those not planned to be retained need not be shown. However, if the future construction of planned facilities will require the removal of existing structures, this shall be indicated by a note or other appropriate means.

d. Facilities under construction but incomplete (i.e., not transferred to inventory). The date for facilities under construction but incomplete shall be the end of the Budget Year minus two (for FY 1957 programs the date is June 30, 1955).

e. Additional facilities and/or land required to complete the planned ultimate peacetime development. The approximate boundaries of the additional land required shall be indicated.

f. The general location of the installation with respect to cities, towns, ports, harbors, rivers, major highways, railroads, airports, and other important features of the surrounding area.

The first of these is the fact that the United States is a young nation, and that its history is a history of growth and development. The second is the fact that the United States is a nation of immigrants, and that its history is a history of the struggle for the rights of these immigrants.

The third is the fact that the United States is a nation of free men, and that its history is a history of the struggle for the rights of these free men. The fourth is the fact that the United States is a nation of law, and that its history is a history of the struggle for the rights of these laws.

The fifth is the fact that the United States is a nation of progress, and that its history is a history of the struggle for the rights of these progress. The sixth is the fact that the United States is a nation of peace, and that its history is a history of the struggle for the rights of these peace.

The seventh is the fact that the United States is a nation of justice, and that its history is a history of the struggle for the rights of these justice. The eighth is the fact that the United States is a nation of liberty, and that its history is a history of the struggle for the rights of these liberty.

The ninth is the fact that the United States is a nation of truth, and that its history is a history of the struggle for the rights of these truth. The tenth is the fact that the United States is a nation of love, and that its history is a history of the struggle for the rights of these love.

The eleventh is the fact that the United States is a nation of hope, and that its history is a history of the struggle for the rights of these hope. The twelfth is the fact that the United States is a nation of faith, and that its history is a history of the struggle for the rights of these faith.

It is suggested that a legend be used to identify the facilities, structures, etc. falling into groups defined in subparagraphs c., d., and e., above.

2. Information to be Provided for each Annual Program for Authorization and Appropriation: Copies of installation site plans prepared for illustration and justification of projects included in annual programs shall show by the use of an appropriate color code additional information as follows:

- a. Facilities authorized and still required, and funded.
- b. Facilities authorized and still required (FY 1956 and prior years) but not funded prior to the budget year.
- c. Facilities for which authorization is requested in the budget year.
- d. Facilities for which funding is requested in the budget year, both those previously authorized and still required, and those for which authorization and funding is requested in the budget year.

3. Format: The format of copies of installation site plans prepared for submission to the Department of Defense and others as required, shall be as follows:

- a. An installation site plan shall consist of the number of maps required to show the installation and the planned ultimate peacetime development adequately. The maps shall be of uniform size.
- b. Utility distribution systems are not required to be shown. However, major facilities such as a power plant, sewage disposal plant, etc. should be shown.
- c. If existing or planned facilities consist of a number of repetitive structures, the individual structures need not be shown, but

the land area occupied or allocated shall be shown. Typical examples are barracks areas, family housing areas, and ammunition storage areas.

d. If an installation site plan consists of more than one map, the first map shall contain a legend and color code to facilitate interpretation.

e. Each map shall contain a graphic scale.

f. The title of each map shall indicate the military Department, the name of the installation, the location, the map number and total number of maps constituting the installation site plan.

g. Each installation site plan shall be dated.

CRITERIA FOR MEDICAL PROJECTS TO BE INCLUDED IN THE
FISCAL YEAR 1957 MILITARY PUBLIC WORKS AUTHORIZATION PROGRAM

1. In planning for the construction of medical facilities, the policy of joint utilization of military medical facilities will be given full consideration. The secretary of the military Department sponsoring a project will be responsible for developing the requirements in collaboration with the secretaries of the other military Departments concerned.
2. Military strengths used in developing requirements will be documented by official Departmental publications.
3. In planning for the construction of bed producing medical facilities at new locations, the average rate of hospitalization in existing similar size installations, Continental U. S. or overseas, whichever is applicable, of the military Department or Departments concerned for the preceding calendar year will be used in determining the size of the new facility. Any additional requirement for beds over the above will be fully justified.
4. In planning for replacement construction of bed producing medical facilities, the average hospitalization rate of that facility for the preceding calendar year will be used in determining the size of the facility. Any additional requirement for beds over the above will be fully justified.
5. In planning for the construction of bed producing medical facilities, the following utilization rates will be applied in converting the estimated average patient load to beds:

90 patients and over	80%
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Less than 90 patients	75%
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6. In planning for hospitals of 50 beds or more in the Continental U.S. where expansion of the base is possible and there is a mobilization requirement, the clinical and other facilities will be designed to permit 100 per cent expansion by the addition of nursing units only.
7. In planning for the construction of bed producing medical facilities, the normal spacing of beds will be used. The normal spacing shall be understood to mean 100 square feet per bed or 8 feet from the center of one bed to the center of the next bed.
8. In planning for non-bed producing medical facilities, the troop strength served and the dependent population served, where applicable, will be used in determining the size of the facility.
9. In planning for dental clinics, the following will be used in determining the total number of Dental Operating Rooms to be authorized per troop strength served:

<u>Strength Served</u>	<u>DOR</u>
500	2
1,000	3
2,000	6*
3,000	9*
4,000	12*
5,000	14*
6,000	16*
7,000	18*
8,000	20*
10,000	24*
12,000	28*
14,000	32*
15,000	34*

* Does not include special X-Ray rooms to be provided.

The number of dental operating rooms in on-base hospitals will reduce the total requirement by the number of dental operating rooms in such hospitals, Example: Strength served 10,000 = 24 DORs - 6 DORs in hospital = 18 DORs to be programmed.

The first of these is the fact that the
 government has been unable to raise the
 necessary funds to meet its obligations.
 This is due to a number of causes, the
 principal of which are the following:
 1. The government has been unable to
 collect the taxes which it is entitled to.
 2. The government has been unable to
 borrow the money which it needs.
 3. The government has been unable to
 sell the bonds which it has issued.
 4. The government has been unable to
 raise the money which it needs by other
 means.
 The second of these is the fact that the
 government has been unable to pay its
 debts. This is due to a number of
 causes, the principal of which are the
 following:
 1. The government has been unable to
 collect the taxes which it is entitled to.
 2. The government has been unable to
 borrow the money which it needs.
 3. The government has been unable to
 sell the bonds which it has issued.
 4. The government has been unable to
 raise the money which it needs by other
 means.
 The third of these is the fact that the
 government has been unable to pay its
 interest on its debts. This is due to a
 number of causes, the principal of which
 are the following:
 1. The government has been unable to
 collect the taxes which it is entitled to.
 2. The government has been unable to
 borrow the money which it needs.
 3. The government has been unable to
 sell the bonds which it has issued.
 4. The government has been unable to
 raise the money which it needs by other
 means.

Year	Amount
1890	100,000,000
1891	120,000,000
1892	140,000,000
1893	160,000,000
1894	180,000,000
1895	200,000,000
1896	220,000,000
1897	240,000,000
1898	260,000,000
1899	280,000,000
1900	300,000,000
1901	320,000,000
1902	340,000,000
1903	360,000,000
1904	380,000,000
1905	400,000,000
1906	420,000,000
1907	440,000,000
1908	460,000,000
1909	480,000,000
1910	500,000,000

The fourth of these is the fact that the
 government has been unable to pay its
 principal on its debts. This is due to a
 number of causes, the principal of which
 are the following:
 1. The government has been unable to
 collect the taxes which it is entitled to.
 2. The government has been unable to
 borrow the money which it needs.
 3. The government has been unable to
 sell the bonds which it has issued.
 4. The government has been unable to
 raise the money which it needs by other
 means.

10. In view of the differences in the operation of dental programs at training stations by the three military Departments, DORs in addition to those prescribed above will be fully justified.



NUMBER 4165.3

DATE March 11, 1955

Department of Defense Instruction

SUBJECT Department of Defense Facility Classes and Construction Categories

I. PURPOSE

The purpose of this Instruction is to establish uniform Facility Classes and Construction Categories together with a numerical code, for use in identification and classification of real property.

II. APPLICABILITY

The Facility Classes and Construction Categories, together with a numerical code shown in Inclosure (1), are established by this Instruction, and shall be applied to planning and programming, budgeting, accounting, and reporting in the areas of construction, inventory, and maintenance (insofar as practicable) of real property. This Instruction does not apply to rivers and harbors and flood control projects (civil works) of the Department of the Army, nor to emergency construction accomplished by military forces in direct support of combat operations.

III. REVISIONS

Revisions of and additions to the Facility Classes, Construction Categories, and the three-digit code numbers shown in Inclosure (1) shall be submitted to the Assistant Secretary of Defense (Properties and Installations) for approval and inclusion in this Instruction. Such changes will be coordinated with the Assistant Secretary of Defense (Comptroller). A more detailed breakdown of the categories, and an extension of the numerical code by additional digits or other means may be made for internal use within the Departments.

IV. EFFECTIVE DATE

This Instruction is effective upon date of issue.

Franklin G. Floete

Franklin G. Floete
Assistant Secretary of Defense
(Properties and Installations)

Inclosure (1)

Facilities Classes and Construction Categories

Facility Classes, Category Groups, and Basic Categories	Unit of Measure
---	-----------------------

1. Operational and Training Facilities

110	Airfield Pavements	
111	Airfield Pavements - Runways All runways, landing strips, helicopter landing pads, LTA landing mats.	SY
112	Airfield Pavements - Taxiways All taxiways.	SY
113	Airfield Pavements - Aprons Maintenance, parking, access, operational and other aprons.	SY
116	Airfield Pavements - Other All other miscellaneous airfield pavements such as aircraft washracks, compass swing bases, seaplane ramps.	SY
120	Liquid Fueling and Dispensing Facilities	
121	Aircraft Dispensing High and low speed normal fuel dispensing facilities.	OL
122	Marine Dispensing High and low speed normal fuel dispensing facilities.	OL
123	Land Vehicle Dispensing High and low speed normal fuel dispensing facilities.	OL
124	Operating Fuel Storage Immediate back-up storage for dispensing facilities (exclude bulk, see 400 series) at airfield and other land and marine stations.	Gal
125	POL Pipeline Pipeline, pumping stations, accessory equipment and appurtenances (exclude terminal and bulk storage tanks).	Mi
126	Liquid Fuel and Dispensing - Other	None

- | | | |
|-----|--|------|
| 130 | Communications, Navigational Aids and Airfield Lighting | |
| 131 | Communications-Buildings | SF |
| | Buildings for radio, radar, relay, telephone including globecom, base, net and similar operations. Exclude navigational and aviation aids. | |
| 132 | Communications - Other Than Buildings | None |
| | Antenna system towers, communication control link facilities. Exclude navigation and aviation aids. | |
| 133 | Navigation and Traffic Aids - Buildings | SF |
| | Buildings to house sea and air traffic control. | |
| 134 | Navigation and Traffic Aids - Other Than Buildings | None |
| | Radar approach control, visual av aids, antenna systems, vaults, foundations, towers, beacons and other structures. | |
| 135 | Communication Lines | Mi |
| | Marine cables, underground and overhead cables, opin wire lines. | |
| 136 | Airfield Pavement Lighting | FT |
| | Lighting both sides and approaches for all airfield pavements. Exclude airfield perimeter lighting, street lighting and other general illumination. (See 812) | |
| 140 | Land Operational Facilities | |
| 141 | Operational - Buildings | SF |
| | All buildings for housing operational and operational types of activities and equipment, including alert hangars, LTA hangars. | |
| 142 | Operational - Helium Plants and Storage | None |
| | Facilities for receipt, storage in bulk, processing and reprocessing, and dispensing of helium gas, including tanks, pipes, valves, valve chambers and similar appurtenant equipment and facilities. | |
| 149 | Operational - Facilities Other Than Buildings | None |
| | Facilities other than buildings such as towers and structures in which or from which tactical and organizational type operations are performed or simulated for practice which do not fall readily into another category. Also, protective construction. | |

150	Waterfront Operational Facilities	
151	Piers	FB
152	Wharfs	FB
153	Cargo Handling Facilities	SY
154	Sea Walls, Bulkheads, Quay Walls	None
159	Other Waterfront Operational	None
160	Harbor and Coastal Facilities	
161	Harbor Protection Facilities	None
162	Coastal Protection Facilities	None
163	Moorings	None
	Buoys, Dolphins, Mooring Platforms	
164	Marine Improvements	None
	Groins, Levees, Jetties, Breakwaters, Moles.	
165	Dredging	SY
	Original dredging not directly related to the specific construction of an item. (Place in 183 as inventory)	
169	Other Harbor and Coastal	None
	Harbor and entrance control points, signal towers.	
170	Training Facilities	
171	Training Buildings	SF
	Classrooms and other special buildings in which instruction is given, or the design of which limits their use generally to instructional and training purposes.	
179	Training Facilities - Other Than Buildings	None
	Structures on training courses, ranges, maneuver areas, including training mock-ups, and similar type facilities provided for or limited in use to training (do not include expendable targets, or airfield, waterfront and other facilities which fall readily into other categories).	

2. Maintenance and Production Facilities

210	Maintenance	
211	Maintenance - Aircraft	SF
	Facilities and shops for maintenance and repair of air frames and related assemblies and spares, aircraft engines and related spares and spare parts; other aircraft equipment and spares.	

- 212 Maintenance - Guided Missiles SF
Facilities and shops for maintenance and repair of guided missile systems and parts, ground handling and launching equipment.
- 213 Maintenance - Ships, Spares SF
Ship-ways, ground ways, graving docks, marine railways, appurtenant shipyard facilities and facilities for maintenance and repair of vessels of all types, of floating cranes and dry docks, and of tracked amphibious vehicles such as LVT's. Do not include facilities principally for use in ship building and which fall readily in other categories, such as waterfront facilities, industrial facilities and administrative facilities.
- 214 Maintenance - Tank, Automotive SF
Facilities and shops for maintenance and repair of combat vehicles and non-combat vehicles including self-propelled gun carriages, ambulances and other motorized vehicles. Do not include weapons, tracked amphibious vehicles and construction equipment.
- 215 Maintenance - Weapons, Spares SF
Facilities and shops for maintenance and repair of small arms, automatic weapons, mortars, artillery, guns, launchers, projectors (for arming ships, vehicles and aircraft), flame throwers, torpedo tubes, harbor protective nets, non-electronic equipment. Do not include facilities for guided missile equipment.
- 216 Maintenance - Ammunition, Explosives, Toxics
Facilities and shops for maintenance and repair of ammunition, rockets, bombs, mines, grenades, torpedos, depth charges, demolition materials, pyro-technics, ATO units, guided missile fuels, ammunition parts and related chemicals. Do not include facilities for guided bombs and commercial type petroleum products.
- 217 Maintenance - Electronics and Communication Equipment SF
Facilities and shops for maintenance and repair of radio and radar equipment, radiation aids, sonar equipment, transmission and reception equipment, guided bombs.
- 218 Maintenance - Facilities for Miscellaneous Procured Items and Equipment SF
Facilities and shops for maintenance and repair of:

- (a) Petroleum products, non-petroleum fuel and lubricant and separately procured containers.
- (b) Clothing, leather, textiles, tents, athletic equipment, gas masks, parachutes, life rafts, shoe lasts.
- (c) Military type bridging, landing mats, metal posts, pipe and storage tanks, prefab buildings, construction supplies, mechanical and electrical equipment, all for temporary or war-time use.
- (d) Railway rolling stock and parts, cranes, railway tools, signal equipment, maintenance of way equipment.
- (e) Construction equipment such as power shovels, bulldozers, concrete mixers, earth moving trailers; and hand tools such as pneumatic drills, welding equipment, paint sprays; materials handling equipment such as movable conveyors, warehouse trucks, tractors and trailers, fork lift trucks, stackers.
- (f) Medical and dental instruments, furniture and equipment, X-Ray equipment and film.
- (g) Cameras, film, photographic equipment and supplies.
- (h) Refrigerators, heating, plumbing, lighting and electrical equipment, furniture, office equipment, laundry and dry cleaning equipment, similar equipment for field use.
- (i) Books, publications, reproduction.

Exclude:

- (a) Fuel for ATO, fuel cells.
- (b) Bridge erection boats.
- (c) Railway track ties and accessories.
- (d) Dump trucks, prime movers, installed conveyors and elevators.
- (e) Ambulances.

- 219 Maintenance - Installation, Repair and Operation SF
Facilities and shops for maintenance, repair and overhaul of installation facilities and of installed shop and other equipment used in support of the maintenance-repair-operation function at military installations, including operation of utilities unless such a facility falls more readily in another category.
- 220 Production
- 221 Production - Aircraft SF
Facilities for constructing and assembling new components, air frames and related assemblies and spares, aircraft engines and related spares and spare parts, other aircraft equipment and spares.
- 222 Production - Guided Missiles SF
Facilities for constructing and assembling new components, guided missile systems and parts, ground handling and launching equipment.
- 223 Production - Ships, Spares SF
Ship-ways, ground ways, graving docks, marine railways, appurtenant shipyard facilities for the construction of vessels of all types, of floating cranes and dry docks, and of tracked amphibious vehicles such as LVT's. Do not include facilities principally for use in ship maintenance and repair and which fall readily in other categories, such as waterfront facilities, maintenance facilities and administrative facilities.
- 224 Production - Tank - Automotive SF
Facilities for constructing and assembling new components, combat vehicles and non-combat vehicles including self-propelled gun carriages, ambulances and other motorized vehicles. Do not include weapons, tracked amphibious vehicles and construction equipment.
- 225 Production - Weapons, Spares SF
Facilities for constructing and assembling new components, small arms, automatic weapons, mortars, artillery, guns, launchers, projectors (for arming ships, vehicles and aircraft), flame throwers, torpedo tubes, harbor protective nets, non-electronic equipment. Do not include facilities for guided missile equipment.

- 226 Production - Ammunition, Explosives, Toxics SF
 Facilities for constructing and assembling new components, ammunition, rockets, bombs, mines, grenades, torpedos, depth charges, demolition materials, pyro-technics, ATO units, guided missile fuels, ammunition parts and related chemicals. Do not include facilities for guided bombs and commercial type petroleum products.
- 227 Production - Electronics and Communications SF
 Equipment
 Facilities for constructing and assembling new components, radio and radar equipment, radiation aids, sonar equipment, transmission and reception equipment, guided bombs.
- 228 Production - Facilities for Miscellaneous Procured Items and Equipment
 Facilities for constructing and assembling new components for:
- (a) Petroleum products, non-petroleum fuel and lubricant and separately procured containers.
 - (b) Clothing, leather, textiles, tents, athletic equipment, gas masks, parachutes, life rafts, shoe lasts.
 - (c) Military type bridging, landing mats, metal posts, pipe and storage tanks, prefab building, construction supplies, mechanical and electrical equipment, all for temporary or war-time use.
 - (d) Railway rolling stock and parts, cranes, railway tools, signal equipment, maintenance of way equipment.
 - (e) Construction equipment such as power shovels, bulldozers, concrete mixers, earth moving trailers; and hand tools such as pneumatic drills, welding equipment, paint sprays; materials handling equipment such as movable conveyors, warehouse trucks, tractors and trailers, fork lift trucks, stackers.
 - (f) Medical and dental instruments, furniture and equipment, X-Ray equipment and film.
 - (g) Cameras, film, photographic equipment and supplies.
 - (h) Refrigerators, heating, plumbing, lighting and electrical equipment, furniture, office equipment, laundry and dry cleaning equipment, similar equipment for field use.

(i) Books, publications, reproduction.

Exclude:

- (a) Fuel for ATO, fuel cells.
- (b) Bridge erection boats.
- (c) Railway track ties and accessories.
- (d) Dump trucks, prime movers, installed conveyors and elevators.
- (e) Ambulances.

229 Production - DOD Maintenance, Repair and Operation of Installations SF
Plants and facilities for production and processing in support of the M-R-O function at Military Installations; such as stone quarries, stone crushing plants, saw mills.

3. Research, Development and Test Facilities

- 310 R&D and Test Buildings SF
Buildings and scientific facilities used directly in theoretical or applied research and development and test operations. Do not include test buildings or facilities which usually follow normal maintenance, repair and overhaul.
- 390 R&D and Test - Other Than Buildings None
Scientific structures and facilities other than buildings, used directly in theoretical or applied research and development and test operations which usually follow normal maintenance, repair and overhaul.

4. Supply Facilities

- 410 Liquid Fuel Storage
- 411 Liquid Fuel Storage - Bulk Bbl
Depot, terminal and bulk type storage for POL, fuel oil, aviation gas and other liquid fuel including accessory piping.
- 420 Ammunition Storage
- 421 Ammunition Storage - Depot and Arsenal SF

- (a) Igloos, magazines (above and underground), storage pads for support of bulk storage mission.
- (b) Storehouses for propellants storage, under explosive safety distances criteria, for support of bulk storage mission.

422 Ammunition Storage - Installation and Ready - Issue SF

- (a) Igloos, magazines (above and underground), storage pads for day to day use in support of installation mission.
- (b) Storehousing for propellants, under safety distances, criteria for day to day storage in support of installation mission.

423 Ammunition Storage - Liquid Propellant Gal
Facilities for receipt of bulk storage in tanks, and dispensing from storage of liquid propellants under explosive safety distances criteria including tanks, pipes, valves, valve chambers and similar appurtenant equipment and facilities.

430 Cold Storage

431 Cold Storage - Depot and In-transit CF
Freeze and chill plants, cold and refrigerated warehouses and normal processing facilities combined therewith in support of bulk storage mission.

432 Cold Storage - Installation and Ready - Issue CF
Freeze and chill plants, cold and refrigerated warehouses and normal processing facilities combined therewith for day to day storage in support of the installation mission.

440 Storage - Covered

441 Storage - Covered - Depot and Arsenal SF

- (a) Warehouse, storehouse and garage types of storage completely enclosed by walls, together with heating, sprinkler and alarm systems for support of bulk storage mission.
- (b) Shed storage not completely enclosed by walls, including alarms and other systems for support of bulk storage mission.

- (c) Covered storage for inflammables, both warehouse and shed types, removed or set apart from other covered storage in accordance with criteria for storage of inflammables for support of bulk storage mission.

442 Storage - Covered - Installation and Organizational SF

- (a) Warehouse, storehouse and garage type storage, completely enclosed by walls, together with heating, sprinkler and alarm systems for day to day storage in support of installation mission.
- (b) Shed storage not completely enclosed by walls, including alarm and other systems for day to day storage in support of installation mission.
- (c) Covered storage for inflammables, both warehouse and shed types, removed or set apart from other covered storage in accordance with criteria for storage of inflammables for day to day storage in support of the installation mission.

450 Storage - Open

- 451 Storage - Open; Depot SY
Depot and in-transit open storage such as paved, prepared surface and stabilized areas for support of bulk storage mission.

- 452 Storage - Open; Installation & Organizational SY
Open storage such as paved, prepared surface and stabilized areas for day to day storage in support of installation mission.

5. Hospital and Medical Facilities

- 510 Hospital Buildings Beds
In-patient hospital facilities such as hospital facilities at medical centers, major hospital installations, and installation hospitals for complete in-patient care.
- 520 Infirmary Buildings Beds
In-patient infirmary facilities such as limited hospital facilities in areas of low troop population, far from regular hospital facilities to provide limited or normal in-patient care.
- 530 Laboratories and Clinics SF
Laboratory and research facilities, outpatient general clinics, without facilities for in-patient care and veterinarian facilities.

540 Dental Clinics SF
Out-patient dental clinics without facilities
for in-patient care.

550 Dispensaries SF
Out-patient dispensaries without facilities
for in-patient care.

6. Administrative Facilities

610 Administrative Buildings SF
Headquarters and office type buildings to
accommodate offices, professional and technical
activities, business machines, records, files
and administrative supplies for normal operation.
Do not include warehouses for bulk storage of
administrative records and supplies.

620 Administrative Structures - Underground SF

690 Administrative Structures - Other None

7. Housing and Community Facilities

710 Family Housing

711 Family Housing - Dwellings Fam
Buildings to be used as family quarters
including attached private garages.

712 Family Housing - Trailers Fam

713 Family Housing - Trailer Sites Fam
Trailer parking sites or pads with
appurtenant site facilities.

714 Family Housing - Detached Garages No. cars
Appurtenant private garages detached from
family dwellings, but available to occupants.

720 Troop Housing

721 Troop Housing - EM Barracks w/Mess Men
Public housing for bachelor enlisted
personnel and comparable civilians,
both male and female, such as barracks,
dormitories, disciplinary barracks,
detention barracks, and facilities
with mess and galley facilities (except
club and club messing) and latrine and
other facilities as applicable.

- 722 Troop Housing - EM Barracks w/o Mess Men
Public housing for bachelor enlisted personnel and comparable civilians, both male and female, such as barracks, detention barracks and facilities, and latrines and other facilities as applicable, but excluding mess and galley facilities.
- 723 Troop Housing - Detached Facilities SF
Detached facilities appurtenant to bachelor housing for enlisted personnel such as mess and galley facilities and latrines and other facilities which are normally included as an integral part of permanent troop housing, but are usually provided as detached appurtenances to semi-permanent and temporary troop housing.
- 724 Troop Housing - Bachelor Officers Quarters Men
Public housing for bachelor officers and comparable civilians, both male and female, such as BOQ's, nurses' quarters, (exclude club and club messing).
- 725 Troop Housing - Emergency SF
(a) Hutments for troop housing or civilian housing.
(b) Tent frames and floors for troop housing.
- 730 Community Facilities - Personnel Support & Service SF
Facilities for support of the personnel complement such as fire station, hose cart house, brig or guard house, police station, bakery, laundry, dry cleaning plant, waiting and baggage facilities, dependent school or nursery.
- 740 Community Facilities - Morale, Welfare and Recreational - Interior SF
Indoor athletic, recreational and resale facilities such as bowling alleys, field house, gymnasium, swimming pool (indoor recreational), indoor firing range (for recreation), bank, chapel, classrooms (I&E). EM service club, social and recreation building, billiard, pool

and ping-pong tables, entertainment work shops, bus or taxi ticket station, cafeteria (exchange), commissary sales store, branch exchange facilities, service station (exchange), main exchange or ships service store, maintenance shop (exchange), service outlets (exchange concessions), guest house, hobby shop, library, NCO or CPO, and Mess, officers club and open mess, post office, post restaurant (civilian), theatre or auditorium, Red Cross or YMCA building.

750 Community Facilities - Morale, Welfare and Recreational - Exterior None

Outdoor athletic and recreational facilities such as volley ball court, basketball court, softball diamond, baseball diamond, football or soccer field, tennis or badminton court, handball or squash court, golf driving range, golf course, swimming pool (outdoor recreational), stadium polo field, outdoor firing range for recreation, outdoor theatre or amphitheatre, boat and canoe pier or wharf (recreational).

8. Utilities and Ground Improvements

810 Electricity

811 Electricity - Source KVA

Plant building, generating plant and appurtenances. Connected fuel storage for plant operation, auxiliary power in same building, switching station.

812 Electricity - Distribution & Transmission Lines LF

Power distribution and transmission lines including streetlighting and floodlighting (exclude airfield lighting).

820 Heat

821 Heat, Steam - Source BTU/HR

Boiler or Powerhouse, central plant including connected fuel storage for plant operation; facilities for generation or supply of hot water, low or high pressure steam for heat, processing or power.

822	Heat, Steam - Transmission	LF
	Exterior transmission and distribution line and mains for central steam and hot water heating systems.	
823	Heat, Gas - Source	BTU/HR
	Central plant and building facilities and appurtenances, including connected fuel storage for plant operation, for generation and storage of gas for direct heating or as fuel for central plants.	
824	Heat, Gas - Transmission	LF
	Exterior lines, mains and systems for transmission of gas for direct heating or as fuel for central plants.	
830	Sewage and Waste	
831	Sewage and Industrial Waste - Treatment and Disposal	mgd
	Plant building, treatment plant, septic tank drain fields, outfall lines and facilities required for treatment and disposal of sewage and industrial waste; also disposal of storm drainage water in combined storm and sanitary sewer systems.	
832	Sewage and Industrial Waste - Collection	LF
	Collection systems and lines for sewage and industrial waste; also collection of storm drainage in combined storm and sanitary sewer systems.	
833	Refuse and Garbage	Ton
	Collection, processing and disposal facilities such as stands and incinerators.	
840	Water	
841	Water - Supply, Treatment and Storage	mgd
	Wells, supply mains, pumping, treatment and filtration plant, plant building, tanks and storage for potable water. Exclude non-potable water systems.	

- 842 Water - Distribution System LF
Distribution mains and lines and systems for potable water. Include fire hydrant and fire protection systems combined with potable water system.
- 843 Water - Fire Protection LF
Fire hydrants, mains, lines, pumps and systems for fire protection systems not combined with potable water system, usually using salt or non-potable water.
- 850 Roads and Streets
851 Roads SY
Roads, streets and incidental parking areas for vehicular traffic, including highway and vehicular bridges.
- 852 Sidewalks and other pavement SY
Walks and steps for pedestrian traffic including pedestrian bridges; separate parking lots, paved or stabilized areas for vehicular use.
- 860 Railroad Tracks Mi
All two-rail tracks including spurs, sidings, yards, turnouts, with accessories and appurtenances including railroad bridges.
- 870 Ground Improvement Structures
871 Grounds Drainage LF
Drainage and storm sewer system including appurtenant dykes, dams, and retaining walls.
- 872 Grounds Fencing, Gates and Guard Towers LF
Boundary fence including walls, fencing, gates, watch towers, guard walks and guard shelters.
- 880 Fire and Other Alarms Systems Box
Separate fire alarm systems, watch reporting or other alarm systems both local and central reporting types. (Do not include systems using normal telephone or telegraph installation).
- 890 Miscellaneous Utilities None
Miscellaneous central plants, systems, buildings and exterior lines and appurtenances including oxygen acetylene, compressed air and other exterior systems not reportable under any other category. Exclude POL pipelines.

9. Real Estate

910	Land	
911	Land Purchase, Condemnation, Donation or Transfer	Acre
912	Public Domain Withdrawal	Acre
913	Temporary Use License or Permit	Acre
920	Other Rights	
921	Basement	Acre
922	In-lease	Acre
923	Foreign Rights	Acre
930	Improvements	
931	Buildings	SF
932	Site Improvement Includes site clearing and grading, cut and fill, landscaping, etc.	None
933	Demolition Demolition of structures and of other obstructions and removal of debris therefrom and restoring site to useable condition.	None
939	Other (NOTE: For the purpose of the inventory the improvements acquired will be classified according to their function).	None

10. Suspense Accounts

(No inventory codes; temporary accounts to be transferred eventually to inventory codes shown above).

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DEPARTMENT OF THE NAVY
OFFICE OF THE SECRETARY
WASHINGTON 25, D. C.

SECNAV 11011.6
SO-4:RSH

21 MAR 1955

SECNAV INSTRUCTION 11011.6

From: Secretary of the Navy
To: Chief, Bureau of Yards and Docks
Subj: Department of Defense Facility Classes and Construction Categories
Ref: (a) SECNAV Instruction 5215.4A of 10 February 1954,
Department of Defense Directives and Instructions;
implementation and distribution of
Encl: (1) DOD Instruction 4165.3 of 11 March 1955, same
subject

1. Purpose. The purpose of this directive is to transmit enclosure (1) for compliance pursuant to the provisions of reference (a).
2. Implementation. The action addressee will issue supplementary directives, as needed, so that all activities concerned will comply with enclosure (1).

/s/ R. H. Fogler
R. H. FOGLER
Assistant Secretary of
the Navy (Material)

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